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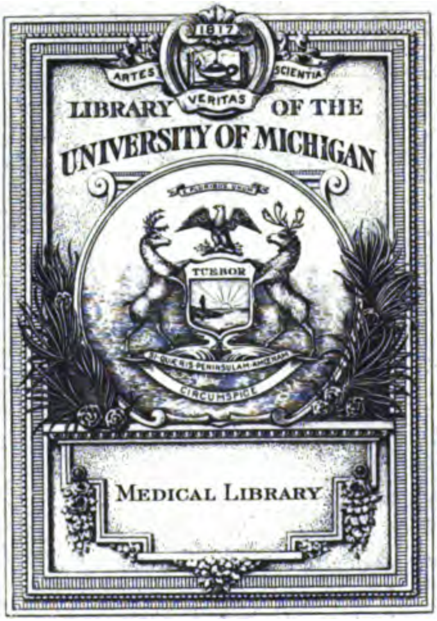

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Lectures.

CLINICAL LECTURE
ON A CASE OF
SYPHILITIC DISEASE OF THE DURA MATER, AND EXTERNAL PERIOSTITIS.

(Delivered at King's College Hospital, May 22, 1849.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XVI.

Case—Chancre—Secondary syphilis—Periostitis—Contraction and paralysis of the right forearm—Pain in the left parietal region—Epilepsy—Cure by Iodide of potassium—Diagnosis—Three similar cases—Cause of the epileptic fits in these cases—Epileptiform fits—Influence of iodide of potassium.

I shall make to-day, Gentlemen, some remarks upon a case which I find has left the hospital, but which I hope you have already made yourselves acquainted with, as he has been some time under our observation, and I have frequently at the bed-side pointed out the leading features of his malady. One great advantage of a clinical lecture delivered in the theatre apart from the patient is that we can discuss freely all the points of a case, many of which cannot be equally well commented on at the bed-side, and some *ought* not to be referred to in the presence of the patient. I trust that you will remember the patient, and the particular symptoms under which he laboured.

This is a case of peculiar importance and interest. It is an example of the way in which secondary syphilis affects the periosteum of different, and here important parts, producing serious, and possibly fatal, disturbance in the functions of those parts. Here you have first primary and then secondary syphilis; then periostitis, first of external parts, and then affecting the dura mater; then symptoms of brain disease, both local and distant; and, lastly, when the nature of the disease was detected, rapid and perfect relief.

The patient was James Baglin, æt. 34 (vol. xxvi.): the history of the case, which well illustrates the way in which bad cases proceed, is, that fourteen or fifteen years ago he contracted syphilis, and had a chancre and a bubo: he took, without medical advice, a large quantity of mercury, which salivated him freely; he took as much as 210 grains, or ʒiiss., of blue pill, besides the external application of a great quantity of mercurial ointment. The consequence was, his gums became spongy, his teeth loose, his glands swollen.

After he had gotten rid of the chancre and bubo, he continued well for seven months, and then an eruption came out over his legs, arms, back, and face, &c. For this he was treated with solution of antimony and nitric acid (he thinks), and in a short time cured. Soon after the disappearance of the eruption, symptoms of iritis came on. His description of the affection of his eyes is a tolerably exact and clear account of an attack of iritis. He says he first perceived a haziness before his eyes; they were very much inflamed, vision was much impaired, and he had belladonna applied to dilate them; which makes it probable that some adhesion had taken place, or threatened to take place, between the margin of the iris and the anterior surface of the crystalline lens.

From all these evils he seems to have escaped pretty well, and he got married. He appears to have had no return of any unfavourable symptom till five years ago, when he applied as an out-patient to one of the hospitals in the metropolis for contraction and rigidity of the flexor muscles of the right forearm, and numbness in the same region. The nature of this symptom was not fully recognised; the case was looked upon as surgical, and the affection as local. The surgeon into whose hands he fell first applied leeches, then warm fomentations day and night; then, thinking there was some deep-seated abscess at the root of it, he made several free incisions, but all with no effect: so great was the contraction that it was in contemplation to divide the tendons. Fortunately, however, this was not done, and the patient left the hospital, after having been in it twelve weeks, just as he entered it. The contraction seems to have been confined to the flexor muscles of the forearm: the elbow-joint was moved with perfect freedom, the wrist slightly, but the fingers were perfectly stiff. After leaving the hospital, he went from one to another without deriving any benefit. At last, a singular and very fortunate accident happened to him: he met with a friend, to whom he related his symptoms, and who told him that he had suffered from an exactly similar attack, and that he had been cured by a certain medicine, of which he would give him the prescription, and which he had no doubt would cure him. He accordingly took it in the prescribed dose

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of two tea-spoonfuls twice a day, and it *did* cure him. In three weeks he was perfectly well, and not only had the contraction subsided, but the sensibility was restored, and from feeling very ill, and having no appetite, he became quite well and strong, and his appetite recovered. The medicine turned out to be iodide of potassium.

From that time he continued quite well till six months ago, when he was thrown out of work, and got into that mentally and physically low state which is peculiarly favourable to the supervention of any attack whose seeds may have previously existed in the constitution. In consequence of this, he went to Ireland, where he had some friends, for work, and there, in Dublin, about four weeks ago, he had a fit, accompanied and preceded by severe pain in the head. He became alarmed, and returned to London, and shortly afterwards applied to this hospital as an out-patient, where the syphilitic nature of his disease was at once recognised by Mr. Bowman, who prescribed iodide of potassium. He intended to continue as an out-patient, but having had a third fit the day after, determined to become an in-patient at once, and was admitted on Saturday, May 5th.

On his admission he appeared in a very low condition: his face was pallid, and he spoke tremulously: he complained principally of pain in his head, situated in the region of the left parietal bone, and also of great pain and tenderness over the head of the fibula of the left leg. The pain in the parietal region was not increased by pressure, but the region of the head of the fibula was much swollen and extremely tender to the touch. The pain both in the head and the fibula was severe, and became much aggravated at night, so as to deprive him of his rest, —a symptom bearing distinctly on the diagnosis. The situation of the pain in the leg was marked by a swelling of considerable size, which appeared to implicate not only the periosteum, but the ligaments of the joint and the fasciæ. At the situation of the pain in the head, there was nothing to be seen or felt; there was no evidence of inflammation affecting the pericranium; but the pain was very defined both in character and in situation; it was fixed with variable severity in the parietal region, and never left it nor extended beyond it.

In addition to these symptoms, there was a very remarkable state of the *right* forearm—the side, you will observe, opposite to that on which the pain in the head existed. The muscles of the forearm were all in a rigid state, and the fingers forcibly bent into the palm of the hand, the flexor tendons being rendered quite tense by the firm contraction of the muscles. Moreover there was a good deal of numbness of the forearm, and the rigid state of the muscles both impeded their action and weakened them. There was, in fact, imperfect paralysis both of sensation and motion.

So far, then, we have all the history of the case which can bear upon or be necessary for the diagnosis. I regret that we omitted to make inquiry into one point very interesting in reference to general pathology. He had been married within the last few years; but it was neglected to inquire whether his wife had become pregnant, and whether she had gone her full time, and borne healthy or diseased children. That a man still tainted with syphilis will beget syphilitic children without exciting primary symptoms in the woman, is now well known; and the tendency which women impregnated by such men have to miscarriages is also a fact of great interest, especially with reference to the laws of the humoral pathology.

Now the existence of periostitis was quite evident, from the large swelling over the head of the fibula; and the history of the case, the aggravation of the symptoms at night, the influence of iodine, made this part of the diagnosis easy and certain; but what was the connection between the periostitis and the condition of the arm? Was it dependent on some local change affecting the periosteum of the bones of the forearm, and the tendons of the muscles, and perhaps also the nerves, or is it due to some morbid state of a distant part—the brain for instance? I thought for a moment that the contraction and partial paralysis of the forearm might have been dependent on irritation from periostitis affecting the part itself; but very little reflection convinced me that an affection so extensive, and of such long duration, was not likely to result from a local cause, nor could I call to mind any case in which such symptoms resulted from a cause of that kind. On looking further into the case I came to the conclusion that the affection of the arm was caused by syphilitic inflammation of the dura mater—the internal periosteum of the cranial bones—in short, an intracranial node—causing pressure on the surface of the cerebral hemisphere, and giving rise to paralysis, with irritation, and consequent muscular rigidity.

This diagnosis was founded on the following points, which our investigation of the case enabled us to make out. First, there was paralysis not only of motion, but also of sensation: this denoted that the paralytic state was due to an affection of the *nerves* rather than of the muscles. Secondly, we could trace no evidence of node, or other periosteal affection of the bones of the forearm; therefore, a local cause was unlikely. Thirdly, the general history of the case distinctly denoted an affection of a syphilitic nature. And lastly, the fixed and constant position of the pain in the head, situated as it was on the side opposite to that on which the paralytic affection existed, indicated mischief in that situation. The occurrence of epileptic fits after the pain in the head and the affection of the arm had existed for some time, evidently associated that pain with cerebral disturbance.

The train of phenomena in this case was as follows. There was first syphilitic inflammation of the dura mater: this was slow and insidious in its progress, and did not at first cause any great pain: it then produced a certain amount of node; and this, by its pressure upon the surface of the hemisphere, caused irritation and paralysis, accompanied by spasm and rigidity; and, as the pain in the head increased, the paralysis both of sensation and of motion increased. The paralysis, imperfect as it was, and accompanied by rigidity, was just such as would arise from pressure on the *surface* of the brain.

I think, then, there can be no doubt that in this case we had syphilitic inflammation of the dura mater, exactly analogous to that affecting the periosteum of the fibula. Idiopathic inflammation of the dura mater is extremely rare: indeed, taking the word *idiopathic* in its strict sense, as implying the absence either of constitutional taint, or the introduction of poison from without, I should say it never occurred. Besides local injuries, scrofula and syphilis are the two common causes of inflammation of the dura mater: of the scrofulous form we sometimes meet with an example in that produced by otitis spreading from the ear to the cranium, the primary disease being almost always scrofulous in its origin. Indeed, the further we advance in our knowledge of pathology the more we must give up ideas of idiopathic inflammations, and the more constantly do we find inflammatory affections to be due to some defect in the excretory functions, or to the introduction of some morbific material.

If anything further could be wanted to establish the correctness of the diagnosis, that is supplied by the perfect success of the treatment which was based upon it. From the history he gives us it appeared that his symptoms on a former occasion yielded to the influence of iodine. On his admission into the hospital he was put upon three grains of iodide of potassium three times a day. The effect was most marvellous: almost as soon as it was given to him the symptoms began rapidly to give way, as the following daily report shows:—On the 9th—three days after admission—the report is that the patient seems decidedly better, has an appetite, pain easier, looks better, sleeps well.

On the 12th.—Better in every way; is able to use his arm; pain in the head gone, in the leg less; swelling diminished.

17th.—Better in every way; pains in the head and leg quite gone; sleeps, eats, and drinks well.

19th.—Quite well in every respect.

Now, if we had failed in our diagnosis, we might have kept this man for weeks in the hospital without doing him any good, and perhaps sent him away just as he entered, instead of dismissing him cured of his malady, and in a state fit to resume his ordinary avocations. Nothing can give a clearer idea of the importance of correct diagnosis than the history of a case like this. If the disease had not been arrested, it is probable that more lymph would have been poured out upon the dura mater—the pressure would have been augmented—the fits would have recurred; and the epilepsy, instead of being transitory, would have become confirmed: in fact, it is impossible to say where the effects of the disease would have stopped: whereas, by a careful investigation of the case, a due appreciation of the indications furnished by its history, and the administration of a small quantity of a harmless medicine, the man is restored to perfect health. If any one were inclined to attach but little importance to correct diagnosis, the instance of such a case as this is all that is necessary to prove the danger and absurdity of such views. It shows that the great step towards cure is the right understanding of the nature of the disease with which we have to grapple.

Now I ask the question—What has been the exact state of the dura mater in this case? I think the best way to answer this is to give you an account of the history and post-mortem examination of a case that occurred in my hospital-practice some years ago. These cases are generally capable of cure if detected early; but if allowed to go on too long, new products are formed which permanently damage the brain, and are not susceptible of cure. The case to which I allude is as follows:—

A woman, æt. 31, was admitted into the hospital some years ago, suffering from the following symptoms:—great loss of memory, fits, imperfect palsy of the left side, and pain in the right parietal region. She was a married woman, and had lost her husband, and she attributes her illness to grief from this cause. About this time, which was between five and six years before her admission, the pain in her head began. She led an irregular life, was intemperate, and of easy virtue, and contracted syphilis, and had chancre, sore throat, papular eruption, and nodes on the tibiæ. Two months before her admission, she had her first fit: it came on shortly after she had eaten a hearty supper. She became insensible, was much convulsed, especially on the left side, bit her tongue, and after the convulsions had ceased she remained in a drowsy state for twelve hours. After this, the pain in her head increased considerably, and was more fixed and defined: it was referred to the right parietal region. The fits likewise recurred frequently; they were always preceded by a sense of painful numbness in the left hand and foot. The *right* pupil was occasionally more dilated than the left, and the right upper eyelid hung lower than the left, as if the third pair of nerves on the right side were slightly affected.

This woman became more and more comatose, and had a severe fit in the hospital, from which she never rallied. On a post-mortem examination we found the dura mater firmly adherent to the cranium, and also to the visceral layer of the arachnoid, for an oval space two inches in its long, and an inch and a half in its short diameter. At this part the dura mater was three or four times its natural thickness. Between the layers of the arachnoid there were two large masses of a yellow colour, like concrete pus, opposite to which were corresponding depressions or concavities on the surface of the cerebral hemispheres. At these points the cerebral substance was slightly softened, and redder than is natural. At the corresponding point on the opposite side of the skull a similar morbid alteration in the dura mater and the arachnoid was commencing. There was no disease in any other part of the brain.

Now this is a good typical case illustrative of the way in which syphilis may affect the parts within the cranium, and the extent, when not early arrested, to which it may proceed. The dura mater, like any external periosteum, becomes affected by the syphilitic poison; then follows arachnitis; and lastly, cerebral compression, and perhaps red softening. No doubt changes of this kind would have taken place in our patient (Baglin) if the progress of his disease had not been arrested. If the woman, whose case I have just related, had come into the hospital three or four months before the time she did, and had been put under a course of iodide of potassium, we cannot doubt that she would have completely recovered.

Let me give you another example of such a case, in which the disease had not gone so far as to be beyond the power of remedies. The patient in this case was a young man, who followed the business of a chemist and druggist. There was a distinct history of syphilis. He had experienced a good deal of pain in the right parietal region, which was treated as neuralgia. From this treatment no benefit resulted, and shortly afterwards he began to suffer from imperfect paralysis of the left arm and leg; and I noticed decided thickness of speech, his manner became dull, and his spirits much depressed. The paralysis then became general on the left side, affecting his face, and his scalp became tender over the painful region. I determined to put him under treatment calculated to relieve inflammation of the meninges, and accordingly gave him calomel and opium, and applied tartar emetic ointment to his head. In ten days his paralysis had vanished, and all his other symptoms had left him.

Here is another case which you have frequent opportunities of witnessing, as he is a frequent inmate of the hospital: his name is Coulson, and he affords a good example of very complete paralysis of the fifth nerve of the left side. I have no doubt that syphilis is at the root of the disease in this instance too. The man is subject to epileptic fits, the immediate exciting cause of which is intemperance. I think the exact diseased condition in this case is syphilitic inflammation of the dura mater in the vicinity of the fifth nerve and the Casserian ganglion; that lymph has been poured out which presses upon the ganglion, and, including both the sensitive and motor portions of the nerve, suspends alike their respective functions.*

There are one or two more points touching cases of this class, with which I will conclude what I have to say to you to-day.

And, first, as to the causation of the epileptic fits which occurred in three out of four of the cases I have related, and which I can scarcely doubt must have occurred in the fourth case had it been suffered to proceed much further. The occurrence of epileptic fits in such cases as these appears to me to denote that the brain itself is involved in the morbid action, either by extension of irritation from the diseased parts, or by the direct influence of the syphilitic poison; but in all the cases the simple existence of the diseased state of the dura mater did not seem sufficient to cause the fits. The morbid process had been of long continuance in the dura mater before the fits began. They

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*** This patient died many months after this lecture was given, and the arachnoid sac was found completely obliterated by old cellular adhesion all around the fifth nerve.**

seem to have been brought about by causes operating on the whole system—upon the blood—upon general nutrition—and upon that of the brain in particular, which must have already suffered a good deal by the neighbouring disease of the dura mater.

In some cases of meningeal disease, especially, I think, when the pia mater is previously affected, we meet with fits of a very remarkable character: I have called them *epileptiform*. One arm, or both arm and leg on one side, become seized with convulsive movements, quite of the clonic or epileptic kind. These come in paroxysms; the paroxysm lasts a variable time, and then subsides, leaving more or less general exhaustion and disposition to sleep; but consciousness is not impaired. Yet there can be no doubt that such fits may pass into the true epileptic fit; for it is not rare to see a very complete epileptic fit commence with some local derangement of sensation or motion, or both.

Secondly, the extraordinary influence of iodide of potassium in controlling syphilitic periostitis is highly deserving of your attention. We hear a great deal about specifics, and many medicines have the name with very slender claims to it; but if there is anything in addition to quinine which deserves the name of a specific, it is the iodide of potassium, for syphilitic periostitis. If you have a *pure* case it acts like a charm, so that the treatment materially aids the diagnosis; for we may fairly set it down as a fact, that if the symptoms yield completely and at once to the influence of iodide of potassium, the disease is essentially syphilitic.

But, although iodide of potassium unquestionably exerts a wonderful influence over these syphilitic periosteal affections, nothing is more certain than that its effect is far from being permanent. It is very common to meet with cases of periostitis which at first yield readily to the influence of iodide of potassium, and the patient continues well for a time, when all the old symptoms return. It was thus in Baglin's case: some time before his admisson into the hospital he took iodide of potassium, and the symptoms yielded, but they afterwards returned, and were again removed under the influence of the same remedy. I think it not at all improbable that he may again have a return of the symptoms, and may once more come into our hands.

The knowledge of these clinical facts teaches us that we must not speedily abandon the use of the iodide or of iodine in some other form in cases of this description. In the present state of our knowledge we can scarcely determine whether the iodine acts by eliminating the syphilitic poison, or as an antidote. Possibly it may act in both ways; it may at once promote the action of emunctories, and so increase the amount of matters excreted from the blood; and it may unite with the syphilitic poison and form an innocuous compound, of which, however, the iodine element disappears more quickly than the syphilitic, leaving, after a time, the syphilitic in undisputed sway in the system.

In such cases we must trust to the repeated use of iodine as one element of cure, care being taken to watch the constitution of the patient during its administration. And we may aid the influence of the iodine by the occasional use of mercury, either at the same time with the mercury, or, as I prefer it, alternately,—that is, giving first a short course of mercury, then of iodine,. then of mercury, and then omitting both, and using only tonic means, both medicinal and hygienic, resuming, if occasion should demand, the mercurial and iodine treatment.

But you must always bear in mind that *time* is an important element of cure in these cases; and therefore we must be careful to uphold the powers of our patients, not to weaken them by our treatment; for, by so doing, we should not only retard his favourable progress, but, by weakening the vital powers of the patient, give a stronger hold to the poison. We have seen, in the history of Baglin's case, how a state of enfeebled nutrition from bad living clearly favoured the development of the serious symptoms: hence we must encourage our patients to expect a favourable issue; impress upon them the necessity of a steady perseverance in a general plan of treatment, and point out the dangers of swerving from the hygienic or dietetic rules laid down for them.

MANSLAUGHTER BY ADMINISTERING IMPROPER MEDICINES.

DURING the present term of the Supreme Court of Maine, at Wiscasset, there is to be tried a case in which the indictment had just been brought in against Dr. Chas. Coffran, of Rockland, charging him with the crime of manslaughter. It is said the Doctor prescribed and intended to administer an article of medicine deemed suitable and proper, and, at the request of his patient, but by accident, gave a different article, and death ensued in a few hours, the Doctor discovering his mistake too late. The *Lincoln Democrat* says Dr. Coffran is lately from Massachusetts, from whence he removed to Rockland, where he is well allied to families of respectability and influence.—*Boston Medical Journal.*

Original Communications.

CONSIDERATIONS ON THE CLIMATE OF ITALY,

WITH REFERENCE TO THE TREATMENT OF CHRONIC DISEASE.

By James Edward Pollock, M.D.,
Licentiate of the College of Physicians, and Medical Resident at Rome from 1842 to 1849.

No. IV.

We have now considered briefly the principal reasons why the climate of Italy is not found to benefit the majority of cases of phthisis occurring in the English subject. In the foregoing statement of these views, our object has been not only to declare an opinion founded on observation, but to refer our reasons to physiological laws. We are well aware that there has been a growing tendency to their adoption by many of the profession in England, and that change of air is no longer the "panacea" which it has been.[*] There is, therefore, nothing new in what has been stated; but it was believed that accumulated evidence, and an attempt to explain on rational grounds why such exported cases so frequently turn out badly, might not be unacceptable, as coming from an impartial observer. Medical facts are slow of acquirement, of doubtful phase, subject, like all imperfect or experimental art, to be contradicted by new evidence, and only when statistically collected in numbers offer a true return for the labour expended in their observation.

We would now briefly consider the other side of the question,—namely, whether any real benefit may be derived from a residence in Italy, and in what cases it has been manifested; but before doing so, desire shortly to recapitulate the heads of the foregoing propositions:—

1. We must presume that climate is a principal agent in forming the physical, and, in many cases, the moral temperaments of the inhabitants of countries. Its influence is seen in their frames, in their muscular and nervous development, and in their predominating moral impulses.

2. If such be the normal effects of the climate of a country on its inhabitants, we may expect that a somewhat similar influence will be manifested on natives of other localities exposed to it for any long period; and such is the result of experience.

3. In selecting an individual for such an experiment, we would by guided by his liability or non-liability to be affected by certain influences known to prevail in the country proposed as his residence.

4. In the northern part of the Italian peninsula, over-action of the vascular system is an appreciable effect of the climate, giving rise to acute inflammations of the viscera, and rendering diseases, usually chronic, more rapidly fatal.

5. The sedative air of other parts must be regarded as due, in a great degree, to the prevalence of malaria.

6. A malarious air seems to produce certain slow effects on the animal system, which are neither periodical nor febrile; such are congestions of the viscera, but especially of the liver and kidneys, indicated by derangement of the digestive function, but particularly of the processes of secondary assimilation.

7. The co-existence of any distinctly intermittent affection with phthisis is very rare, while the palliative effects of a malarious air on that disease are frequently observed.

8. A main character of phthisis is, that a depravation of the nutritive function has preceded, and given rise to, the formation of morbid instead of healthy material from the blood, and debility is a constant symptom.

9. Any embarrassment of the processes of digestion and assimilation is therefore a formidable complication in this disease, and the frequency of its occurrence in those exposed to the climate of Southern Italy is sufficient to prevent our recommending that country as a residence *for any lengthened period.*

10. We would also avoid subjecting those in whom debility is so unvarying

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[*] Since writing the above, our attention has been directed to a series of articles in the Lancet by Dr. Burgess, which corroborate the general view here advanced,—namely, the inapplicability of the climate of Italy to *certain cases* of phthisis. It will be seen that we are compelled to differ from the author of these papers as to the impossibility of benefiting *any* cases of the disease by a removal to an Italian climate. It is right to state that our present observations were written before the able remarks of Dr. Burgess appeared in the Lancet.

a symptom to the influence of any air which is decidedly relaxing, whether that property be due to the presence of malaria or not.

It is by no means our object to deny that certain real advantages can be obtained by invalids by a change from the climate of England to that of Italy; and these we would now briefly consider, as well as the cases in which they have been manifested.

The former are plainly due to two causes,—first, to the avoidance of the English, and secondly to the sedative influence of the Italian climate.

To an invalid affected with a disease producing irritation the degree of which is often the measure of the danger to be apprehended, it is of great importance to avoid the damps and fogs, the very rapid changes of temperature, and the cold easterly winds, which are the unvarying features of our long English winter, and our more trying spring. These disadvantages are often attempted to be remedied at home by confinement to chambers artificially heated; in which, it is true, cough may be allayed, but where nervous power is depressed, the spirits and appetite flag, and the moral effects of illness are accumulated around the patient, whose attention is, in addition, of necessity concentrated on these preparations of art to defeat disease. We appeal to every candid observer who has witnessed this immuration of a delicate girl or young man at the active period of life, whether these preparations do not form a whole from which we would gladly relieve the sufferer, even at the expense of diminished comforts abroad. This, then, is one of the things to be *avoided* by a journey to a climate where the winter is short, where (with exceptions occurring at intervals of years) snow does not lie on the ground for more than twenty-four hours, and that generally one day only in each winter, where the changes of temperature, although rapid, may be anticipated by remaining in doors at the hour when they are known to occur (sunset,) and where the spring is ushered in by soft, relaxing weather, and very rarely by tempests of sharp, dry, parching air, searching every pore, and irritating the whole mucous surface.

Such are the negative advantages to be gained by removing our patient. The wealth often lavished in an endeavour to counteract the evil effects of our climate would frequently be better spent in obtaining similar physical requirements derived from a natural source abroad—for we must repeat once more, that high *temperature* is not the point of importance, so much as its tolerable uniformity,—united to shelter from currents of cold air.

The *positive* effects of the southern residence are much fewer in number; a belief in their existence has misled many, will mislead many more, if we are not accurate and true in our estimate of the climates selected. There are neither eternally bright skies (*in winter*) in Italy, nor always golden sunsets, nor an unvarying temperature, nor dry, warm thoroughfares in the towns, nor calm country retreats where no sharp wind blows, nor perpetual sunshine, giving a constant feeling of warmth and comfort. As Milton has furnished us with a Christian personified mythology, which, from want of reflection, and perhaps from a poetical willingness to realize the ideal, we have adopted as true descriptions of beings yet unbeheld by mortal eye,—so Byron, Rogers, and Shelley, and Goethe, and Tasso, have, with the rare gift of the poet, sketched for us a "land of the cypress and myrtle," from which the practical traveller, unfavoured by imagination, while he shivers past a wintry prospect in Italy, seeks in vain! It would provoke more than a smile were we to narrate how we have been petulantly cross-examined by our countrymen, newly arrived in December (with a library of imaginative writers, who have beguiled many a weary, cold, comfortless day's journey, as they sped onwards to the brilliant winter home which awaited them), as to the locality of the poet-land, —where were the skies? the eternal verdure? the calm warm nights?—forgetting that it is the poet's high prerogative to describe only the beautiful, and to gild this dull earth, where even leaden in aspect, with heaven's own colours.

Let the fact be stated once for all. Italy has bright skies, high temperature, and long dreamy days of undiminished splendour, succeeded by exquisite nights of calmness and warmth—*in summer*. But its *winter* is wintry, and the traveller may shiver with cold there, and curse the poetical fiction which has led him to expect, in a latitude of 41°, a climate almost tropical.

What physical advantages, then, can that country offer to the invalid? We reply:—A winter, shorter by nearly two months (not reckoning by the almanac, but by the sensible changes in the seasons) than that of England, a freedom from high or very cold winds, their shorter duration when they do prevail, and in Rome, for local reasons, a great facility for shelter when they are present.

The direct sedative influence of the air of that country, to which so many advantages, palliative and curative, are attributed, must also be classed among its positive effects, if indeed it be not its only one; but the assertion of its virtues must be received with great caution.

That the malarious influence is productive of calming effects on the circulation, and is capable of allaying bronchial irritation to a certain extent, we are inclined to believe, but that the general mildness of the air (so far as it really posesses that quality) is attributable more to the absence of northerly and easterly winds, and to the prevalence of southerly, than to any positive virtues inherent in it, we found daily more and more occasion to believe. We have already stated that the phthisical are singularly free from malarious affections, and that the parts of Italy most eligible for that class of invalids abound in intermittents. These are facts on which to theorise; but for practical purposes, we only require that observation should fairly permit us to rank malaria among the agents which are capable of allaying irritation in the mucous surface, and of exercising a sedative influence on the circulation. To this extent we are willing to go; but as to a remedial influence on the inherent causes of phthisis, or the possibility of retarding *per se*, or curing that disease, physiological considerations and careful practical observations concur in condemning all such as wild and untenable theories. When we come to treat tubercle as a mere local affection (and not until then), can malarious or other air, or medicinal agents applied directly to the pulmonary surface, be considered by pathologists as curative of this inveterate disease.

Let us now briefly notice what advantages we have observed in certain cases exported to Southern Italy.

That alarming state of health in the young of both classes, characterised by debility, relaxation of mental and bodily powers, deficient muscular tone and appetite, when the pulse, if not absolutely feeble, at all events has not yet reached the febrile character, and where slight cough, and in some cases hæmoptysis to a small extent has alone called attention to the chest, and on examination the physician discovers a doubtful or slight dulness over one clavicle or spine of the scapula, an occasional roughness of the respiratory murmur, or some of the other physical signs of congestion, if not of tubercle, in such cases a carefully conducted journey to Italy, a short residence in Rome or Pisa, and a strict observance of the rules of health while there, will often result in a removal of every alarming symptom and sign, especially if no hereditary tendency to phthisis exists. On the judicious selection of such cases by the home physician depends the success of many an invalid journey to the South. Were we to offer an opinion as to the principal indication to be followed in a case where all the sagacity of experience, and all the judgment derived from observation of the medical practitioner is called into exercise, we should say that the state of the circulation is a great guide in estimating the group of changing and often contradictory symptoms which so frequently usher in an attack of tubercle in the lung. With a *permanent* acceleration of pulse—say that it is in the adult uniformly above 100—we should hesitate to remove a patient from England. Should this be accompanied by the physical signs of softening, we should decidedly forbid the journey, as we should also do if a violent irritative action were set up by the system, as manifested by the existence of any considerable degree of hectic.

When the care which judgment, forethought, and experience, can bring to bear has been duly exercised in their selection, we have frequently had the pleasure of witnessing the gradual restoration to health of many and deeply interesting patients,—victims snatched from death, whose recovery, due no doubt to the early recognition of threatened or existing disease, and a corresponding removal from all depressing influences, adds deserved fame to the home physician, giving the assurance that his skill in diagnosis is not merely of abstract scientific, but of truly practical importance. We would here add our candid testimony against over medication of these cases, and are convinced that they rarely, if ever, owe their recovery to drugs in any form Let us reflect that the object is the strengthening of the nutritive function, and the formation of better blood, by which the nervous, as well as the other tissues, are to be fortified; that, if the balance be once turned in favour of nutrition, nature will assuredly make the effort (which no skill can command at will, and. no drug excite to action) to throw off the noxious matter from the blood, and even from the lung, if already deposited there; that this curative tendency is an unfailing effort made in every system, and one not to be lightly tampered with, but rather observed with care, and cherished with a fostering hand, and its peculiarity of action (ever slow) duly considered when the pen is in hand. To a stomach already participating in the debility of the whole system, let us spare every unnecessary dose of matter which is never digested or assimilated, but invariably consists of extraneous material, to be got rid of by the system. We confess that we have often seized the opportunity presented to us by the arrival of a patient in Rome under these circumstances, of laying aside tonics and pills, cough medicines and sedatives, alteratives and blood sweeteners, and having gained the confidence of the individual thus hovering on the confines of health and disease, have endeavoured to raise his moral state by the stimulant of new objects of undying interest, in the ruins of the great scattered over a plain once the theatre of a world's drama, and arched by skies clearer than our own, where we would have him forget the frequent consultation at home, and its consecutive prescription—the sick room and its accompaniments, as also the too-carefully regulated diet which has often been insisted on. Seeing him thus escaped from rules, from home cares, and the haunting ghost of the early decay of life and hopes, it has been our pleasure to sit humbly at the feet of nature, and watch *her* doings with threatened or just-developed disease.

That this is not inconsistent with the performance of the highest duty of the physician we are persuaded, as also that the power of diagnosis which enables him to detect the earliest indications of chest disease, and thus to place his patient speedily in the best conditions for recovery, is a true triumph of art. Nay, more; such leaving to the wholesome care of nature, and jealousy of interfering with her process of cure, is the best method of meeting the arguments and diminishing the gains of the homœopathist, if we have but the courage to avow our views; for we thereby attribute to its true origin a cure which he refers (with credulity or cunning, as he is the deceived or the deceiver) to the impossible action of minute doses of drugs, and both vindicate to ourselves the recognition of truth, and exhibit our truest courage in following it.

Another class of cases, occasionally benefitted by a removal to the climate of Rome, includes the more advanced stages of phthisis. During the stage of unchecked softening, if accompanied, as that change almost invariably is, by great irritative fever and rapid sinking of the vital powers, no benefit can occur from such a removal, and patients in this state *should never be sent abroad*. The act of being conveyed, and the loss of home comforts, is severely felt; the fever is increased instead of being allayed, and the local mischief accelerated. On their arrival in Rome we have found them invariably exhausted by the journey and glad to repose, having at length gained a resting-place which they had at home, and which should never have been left for the illusory hopes of a cure. The progress of disease is rapid, even the palliative effects of milder air are unfelt, and there remains to the sufferer only a foreign grave. The number of invalids of this class now sent abroad is trifling compared with what it was twenty years ago; but the mistake is still occasionally committed. Could the home physician be ever placed in the position which has *often* been our's, —that of being called on to perform the last duty which science owes to humanity, by *numbering* the days which yet remain, and face to face with the patient, calculating with such exactness as we may, whether the powers of life might bear removal *home*, and be obliged to decide in the negative,—such sufferers would rarely arrive to humble the pride, and wring the hearts of those who practise our profession abroad.

But there is now no doubt that a certain class of patients in the second and third stages of phthisis derive material benefit from a residence in Italy; and, in fact, there have always been several among the English community in Rome, who are good specimens of the physical conditions requisite to enable them to benefit by its climate.

1st. They have already (previous to their leaving England) exhibited a tolerance of the disease.

2dly. The process of softening has been slow from the commencement, and unaccompanied by much irritative fever.

3dly. The powers of life are bearing up well, the nutritive function active, the emaciation, though marked, not extreme[†].

4thly. The disease is one-sided.

5thly. They are over thirty-five years of age, without hereditary predisposition, and of originally good conformation of chest.

On examining their history, it will be found that a deposition of tubercle in one lung has taken place from exposure to some of the many influences depressing to health,—as watching, anxiety, prolonged errors in nutrition, or possibly as a sequence to acute disorders, treated by too great depletion.

These might be fairly called cases of accidental phthisis, and the disease may go on unchecked to the third stage, the softening and expectoration of the tuberculous matter being a true curative effort of nature, till a cavity is formed walled round by a barrier of lymph lined by what resembles mucous membrane, which, long after every sign of tubercle has disappeared from the sputa, secretes an abundant muco-purulent fluid, which is daily brought up, to the relief of the patient, its stoppage indicating some sub-inflammatory state, and causing great distress of respiration. There is no doubt that such cases often exhibit undeniable signs of the disease extending—as increasing dulness, moist crepitus, and expectoration of true tuberculous matter—the hectic symptoms being all increased at the same time. But many of them stand still, nature supporting, though with difficulty, the mischief done to a vital organ and the daily drain from the secretion, while an average state of health is maintained.[*]

The climate in question is well suited to such cases, especially when the patient is over 35, and with a removal in summer to England or Switzerland, a succession of winters may be passed in Rome, the progress of the disease being stayed, its more trying symptoms allayed, and life being altogether rendered much more enjoyable than it would be in our climate. For these, the facility of living so much in the open air, the general absence of cold winds, and the power of obtaining shelter from such when present, by selecting a walk or drive under the walls of the city or among the ruins, the shortness of the winter and the absence of fogs, render Rome a choice residence, where also the pursuits and tastes of a mind of refinement can be readily gratified, and offer some compensation for the sacrifice of home and country to health.

[To be continued.]

CHEST PROTECTORS.

We are often called upon to express an opinion regarding inventions of a hygienic character; and we presume that the chest protectors lately invented by Messrs. Cook and Williams, of Princes Street, Hanover Square, have been forwarded to us with the view of eliciting a medical opinion. We have examined one, and consider it to be a useful substitute for the handkerchief commonly worn, and it serves at the same time as a respirator. We can therefore recommend this article to our readers.

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[*] In one case which has been under the eye of the writer for years, a beautiful process of compensation has gradually occurred, the posterior parts of the chest having enlarged, over which the respiration is loudly puerile, the ribs being barrel-shaped below and behind, while the anterior superior walls of the chest are flattened, and so fixed as to partake scarcely at all of the respiratory movements, a provision of nature wonderfully adapted for the double purpose of securing rest to the diseased, and expanding the respiratory surface of the healthy portion of the lungs. No doubt the air cells are dilated, as in emphysema, but without loss of their contractility, and it differs in physical signs from the latter, in that while the percussion sound is loud and the respiratory murmur low in emphysema, in this affection the respiration is loudly puerile, indicating the integrity of the elastic structure of the lung, a state on which depends nothing short of the existence of the patient.

[†] The remarkable evenness of temperature and warmth of St. Peter's renders it a favourite and safe resort for invalids, even when the weather outside is most unfavourable. It may be said to possess "a climate of its own," as has been remarked by many travellers; but the same cannot be said of the other churches in Rome, which from the great contrast of their temperature to that of the outer air, are most pernicious to the invalid.

CASE OF

LATERAL CURVATURE AND EXCURVATION OF THE SPINE,

COMBINED WITH SEVERE SPINAL IRRITATION AND PARALYSIS.

By Samuel Hare, M.R.C.S.

Believing that the following case presents some points of considerable interest, I have pleasure in placing it before the profession.

Miss H., residing in the county of Kent, came under my care 20th of June last year. She was of middle stature, slight conformation, nervous temperament, rather dark hair and eyes. Her father died, aged 65, of rheumatic gout, her mother is living and healthy, and she has ten brothers and sisters also healthy.

The history I obtained of my patient's health was as follows:—When about nine months old she had the measles so severely that it was expected they would terminate fatally, and from this period she never enjoyed good health. At three years of age she had scarlet-fever, and from this, too, she suffered much. When eleven, she had an abscess below the right ankle-joint, which confined her entirely for five or six weeks, and even after this it continued to be troublesome for several weeks more. A year subsequently she had the hooping-cough for some months; after this she became subject to palpitations of the heart, with difficulty in breathing, both of which were increased when she was subjected to any excitement, or when she read aloud.

Six years previous to my seeing her—that is, when 19 years of age—she had a severe attack of "fever," and it is from this date that the symptoms from which she principally suffered at the time she came under treatment, chiefly date their origin. It appears that, on her recovery from the attack, she complained much of pain and weakness in her back. The pain was partly of a spasmodic character, most severe in the lumbar region, but affecting the whole spinal column; the spasmodic pain likewise affected both the upper and lower extremities as well as the spine. The weakness in her back was such that she could not hold herself erect; when she attempted to walk, which she did with great difficulty, her legs became suddenly contracted and drawn up. The fever occurred in January, and from that time she gradually lost the use of the lower extremities, which, from the description, appear to have been so completely paralysed, that in the following October she was unable to walk at all, and had to be carried from one apartment to another: yet both upper and lower extremities would sometimes be spasmodically affected, so as to produce shaking, and other involuntary motions, and the hands were often so clenched that she was altogether unable to open them: she also became quite incapacitated from writing, and from that time till I saw her had not penned a single note.

Besides these symptoms she had distinct hysterical paroxysms, which were the more likely to come on severely if she felt for a few days somewhat better than usual. The attack would commence with palpitation of the heart, affecting both the chest and epigastric region, accompanied with great difficulty of breathing, and with a sensation of suffocation, as if from pressure on the parts just named. She had also an oppressive weight in the head, with numbness in the forehead, eyes, nose, and tongue. Sometimes the tongue felt so numb, particularly on one side of it, that she had difficulty in using it, and she also often experienced a sensation of numbness in the fingers, and yet, notwithstanding, at other times the different senses—touch, hearing, and smell—would become morbidly acute.

After recovery from the immediate effects of the fever, the head was so much affected that her mind and memory became confused, and she could scarcely recollect anything, or even her friends. She was subject to great mental irritability, and was sensitive to so high a degree that she could rarely bear to see any stranger, and, at times, not even her friends. There had been also much superficial tenderness of various parts of the body; the sensibility of the head, for instance, especially at the back part of it, had often been such as to prevent her sleeping, and to allay this in some degree she had long been obliged to have it daily washed with vinegar and water.

From these several causes she had become exceedingly reduced in flesh and strength, and was so weak that she was not able to support herself in a chair without pillows, &c., being so arranged as to prevent her falling out of it.

When she came under my care she was exceedingly thin and feeble, and certainly, from her appearance, did not give much promise of receiving such speedy and complete relief as she obtained. In the dorsal region the spinal column was curved towards the right side, and the left side was proportionately incurvated; while there was also a general excurvation of the whole back, from the second dorsal to the second lumbar vertebra, and, relatively to their natural position, the two upper lumbar vertebræ projected more than any of the others. The right shoulder was higher, and the left one lower, than natural, and the right ribs were curved backwards, so as to tilt the lower angle of the scapula upwards and backwards, and, in consequence of the deformity of the ribs, the chest was also unsymmetrical in front.

She complained of many of the symptoms already enumerated, and had severe spasmodic and shooting pains in different parts of the body and limbs. There was excessive sensibility not only along the course of the spine, but over almost the whole body,—more, however, on the right side than on the left: so acute was it that she quite started, and almost shrieked out, if she were suddenly touched, or if anything came unexpectedly into contact with her. She was unable to walk in the least, and when raised into the erect posture she could not even place one foot before the other, nor, when laid down, could she raise up her legs towards the abdomen: indeed, she had entirely lost the power over her lower extremities; for when either of the limbs was raised she had no power of sustaining it in the position in which it was placed, but it would immediately fall again upon the bed. If laid down, when first raised she experienced a giddiness, with heaviness, and a feeling of pressure over the head: a sensation of tingling over the whole body was also produced, but especially about the dorsal vertebræ and in the lower extremities, the latter being likewise affected with tremulous motions, and sometimes with slight convulsions. She also complained of a sensation of pulsation in the back, which brought on, a feeling of general weakness and agitation. If she were excited by anything, the peculiar numbness of which she so often complained would be induced, and what strength she had, appeared at once reduced.

Her spirits were much depressed, she felt irritable, nervous, and fretful; her powers of mental application were almost destroyed, her thoughts confused, her memory impaired, so that she could scarcely read at all, and, if she did, could not recollect what she read. She seldom got refreshing sleep; she almost always felt chilly, and her feet were generally cold, her circulation being exceedingly languid. She was much troubled with sickness, flatulence, and acid eructations; indigestion, indeed, was always a prominent symptom with her, the food she took causing pain at the epigastrium, which uniformly struck through to between her shoulders. Swallowing was accompanied with a distressing, but an almost indescribable, sensation in her throat. Her food had evidently nourished her but little. Her bowels were generally much confined, and the secretion from the kidneys turbid.

In the treatment of this case, the spinal disease on the one hand, and the spinal irritation and various symptoms on the other, had to be taken into consideration. For the former I had no hesitation in adopting the plan which I usually pursue in cases of lateral curvature, and I felt convinced, from my experience in similar instances, that the same plan would likewise be of advantage towards the relief of the neuralgic and other symptoms which she presented. The inclined plane was therefore recommended, and gentle pressure was made on the projecting parts of the spine in such a direction that its tendency was to press them towards their natural position. Friction, with olive oil, was freely used to the back and chest at stated intervals during the day. Occasional counter-irritants along the course of the spine were had recourse to, and passive motion of the lower extremities was likewise used as she lay upon the plane. Great attention was paid to get the digestive organs into a better condition: moderate saline laxatives were frequently administered, with occasional small doses of mercury, rather, however, as aperients than as alteratives; tonics were given as soon the digestive organs were got into a better state, and she had likewise a course of iodide of potassium.

When she had been about a month under treatment, a decided improvement had taken place in many of her symptoms; the spasmodic pains were less, she felt stronger, and had regained some use in the lower extremities, which she was able to move a little by herself as she lay down, and she also slept better.

At the end of August, when she was supported, she was able to place one foot before the other, so that, with the assistance of her mother and sister, she could pace the room comfortably, though her hips and knees still bent under her when she attempted to bear her whole weight upon them; she had also so far regained the use of her hands as to recommence writing to her friends, which, as already stated, she had not been able to do for many years. She felt so much relief from the recumbent position on the inclined plane as to wish to remain longer upon it, and she reclined upon it more comfortably than upon her bed. The spasmodic pains sometimes came on if she over-exerted herself, but otherwise she was free from them, and 'from almost all suffering, and at the end of September was able to walk in her room alone. These improvements continued till, in the month of November, I considered her sufficiently well to return home. At that time the spinal deformity, which had gradually decreased, had so much improved that the spine was almost straight, and very little of the distortion of the ribs remained. She stood quite erect, and was able to continue walking for some time without fatigue; she walked firmly, and had been able for some weeks to do so: she had no twitchings or spasmodic affection of either the upper or lower extremities. For some time past she had not had any hysterical attacks, and with the increased bodily strength she had also gained more power of mental application, while the mental irritability had materially diminished. Her general health had improved in an equal degree; her appetite was good, and the digestion equally so, there being no weight at the epigastrium after taking food, and the flatulency and eructations, of which she formerly complained, had disappeared

Nov. 1850.—I have lately seen this patient, and was glad to find her looking exceedingly well. Her figure was quite erect, and the improvement in the form of the spine and chest had continued and even progressed; the scapula projected but little, if at all, more than natural, and she had become so stout that the vertebræ and ribs were scarcely visible: indeed, her general appearance was so healthy that it could not have been supposed she had been so serious an invalid. The complexion was clear, and the countenance animated; she had none of the pains or twitchings, and the powers of walking were such that she could walk a mile or more with ease, and in this respect was continuing to improve. When she came under my care, June 1849, she weighed only five stones; when she left town in September she had increased in weight twelve pounds, and when I lately saw her she had gained sixteen pounds more.

REMARKS.—Cases of extremely severe lateral curvature frequently occur with very little, or even without any, spinal irritation, so that the two diseases bear no fixed relation to each other as regards their severity. Severe spinal irritation may occur without any deformity of the spine, and the latter may exist without giving rise to the presence of the former: indeed, during the whole course of my practice, in which, as lateral curvature is the most frequent form of spinal distortion, I have had great numbers of cases of this kind under treatment, I do not remember one accompanied with spinal irritation in so severe a form, and giving rise to such distressing symptoms, as this presented. As has been seen from the history of the case, the tenderness along the course of the spine was extreme, and the sensibility of the surface such as to give rise to most acute suffering when touched. The twitchings both of arms and legs were at times considerable, and she had no power to move the lower extremities. When the latter symptom arises from organic disease of the cord or its membranes, or from pressure, as is not unfrequently the case in angular projection resulting from caries of the spine, the prognosis is of course generally unfavourable, though I have had a few cases in which, as the spine has been got into an improved condition, the paralysis has disappeared. In the present instance, however, though the loss of power was so considerable, besides being of long duration, I was inclined, from the first, to give a favourable prognosis, as I believed it to be independent of organic disease either in the spine or cord, and to depend chiefly, if not entirely, upon functional derangement of the latter. One form, indeed, of lateral curvature of the spine depends upon caries of the sides of the vertebræ; but in this case there was no decided evidence of any such disease, and it appeared to be an example of the far more common form of curvature in which, though the bodies of the vertebræ at the concavity of the curve become somewhat thinned, there is yet no carious destruction of the bones. In organic disease, too, of the cord, it is very rare to have so much spinal irritation present, while in functional derangements of it this is very frequently a marked symptom: the fact, too, of her having occasional hysteric paroxysms rather pointed to the conclusion that the paralysis might depend upon functional disorder rather than upon organic mischief. The result verified the opinion; for she made such rapid progress as could scarcely have occurred had there been organic disease present, and more rapid indeed than, even under the most favourable view of the case, might have been expected, considering the very bad state of her health, her feeble condition, and great emaciation. The improvement commenced from the first, and was progressive, so that she ultimately became able to walk with ease, though she had not walked at all for nearly six years before I saw her. At the end of five months she was so much better that it was not deemed necessary to continue professional attendance, for there was but little curvature of the spine, she had lost the symptoms referable to the nervous system, and her strength and flesh had increased to a remarkable degree. Coincident with the removal of the deformity of the spine and chest was a marked increase in the breathing capacity; for while, on using the Pulmometdr, she was able to expire only 60 cubic inches of air when she first came under my care, her breathing capacity at the end of treatment had increased to 110 cubic inches.

It is by no means always necessary to treat even very severe cases of spinal irritation by the recumbent position. In this instance, however, the recumbent position was adopted in consequence of the accompanying deformity of the spine and chest; and, from my experience in this and other analogous cases, I have no hesitation in stating that the irritation yielded to an extent and with a rapidity which could not have been obtained by any other means. Still recumbency alone is not sufficient for the treatment of either spinal deformity or spinal irritation. I have at present a young lady from the County of Lincoln, aged 25 years, under my care, affected with lateral curvature and a slight amount of spinal irritation, and whose case is now nearly approaching a cure. She had previously, to use her own expression, "been laid up nearly half her life, but without deriving any benefit from it." Since she came under treatment, the recumbent position has also been employed as *one* of the means necessary; but, alone, it would have effected as little, in a curative point of view, in my hands as it had previously done when employed by others. Conjoined with it, in order to improve the spinal distortion, it is necessary to employ pressure in such a direction as, from an anatomical consideration of the parts, is likely gradually to restore the vertebræ and ribs to their natural position: this, recumbency alone is unable to effect. Frictions, however, to the spine, with a stimulating liniment, are also beneficial, and may be used daily.

But, in order to insure permanency to the cure, and to remove the various symptoms which accompany spinal deformity, it is especially necessary to pay the closest attention to constitutional treatment. It almost invariably happens that the general health is, in such cases, out of order,—the food is malassimilated, the nutrition of the system is imperfect, and the secretions unhealthy. These must be rectified by some such plan as was adopted in the present case,—by alteratives, purgatives, and tonics, —though the precise treatment to be adopted must vary according to the peculiarities of the constitution of the patient, and the circumstances of the individual case. What I wish particularly to enforce is, that neither local nor constitutional treatment alone is sufficient to grapple with such cases as the foregoing, but that, to produce satisfactory results, the two must be judiciously united.

9, Langham Place, London,
Dec. 1850.

ON THE

TREATMENT OF HYDROCELE BY THE INJECTION OF PURE COMPOUND TINCTURE OF IODINE.

By Robert Oke Clark,

Late Resident House Surgeon, &c., of the Royal Infirmary, Southampton.

Hoping that the following cases may not appear very uninteresting to many of your readers, I have ventured to solicit their publication in your valuable journal. I have given them as concisely as I could, feeling sure that all the interesting points of a case may generally be told in a few words just as well as in a long story, at the same time that the former is infinitely more agreeable both to write and to read.

The treatment of hydrocele, for its radical cure, by the injection of the pure compound tincture of iodine, was, if I am not mistaken, first introduced by Mr. Martin of Calcutta, in which city the disease is reported to me as being of extraordinarily frequent occurrence, and where the employment of this remedy seems to have been attended with very marked success. I think the plan has not been adopted in this country until recently, though it is now very strongly recommended by our metropolitan and other lecturers on surgery. Mr. Fergusson was, I believe, the first who practised it to any extent in England, and he reports his success as having been very marked: the little syringe, &c., with which he operates, possesses the double advantage of facilitating the operation, and rendering it more cleanly.

Case I.—William Jamieson, æt. 53, of middle stature and healthy complexion, applied to me at the commencement of July last, suffering from an enormous hydrocele on the left side, complicated with oblique inguinal hernia on both sides, that on the left being by far the largest protrusion: the testicle also on this side was slightly enlarged. He gave me the following history of his case:—

When about fourteen years of age, whilst jumping at a mark, he received a very sharp blow on the scrotum, which was followed by a severe attack of orchitis, and confined him to his bed for some time, leaving the testicle slightly enlarged on the left side, to the extent it is now. About two years after this, he noticed that the scrotum showed a "tendency to swell," which continued to increase; but it was not until he was forty-five years old that he became sure that the swelling contained fluid. This collection of fluid now rapidly increased, and he was soon compelled to apply for surgical aid. Just about this time, whilst in the act of lifting a heavy weight, he ruptured himself on the left side The surgeon whom he consulted tapped the hydrocele, and drew off the fluid, but objected to using any injection. At the end of two years the sac was distended larger than before, and the operation was repeated: a weak injection was this time used, but exercised no curative influence. Two years later, he was again tapped; a weak injection was again used, and this time also failed to cure. At the end of another twelve months he was operated on for the fourth time, and no injection was used. Just after this he ruptured himself on the right side. During the summer of 1849, he was advised to go to St. Bartholomew's, the hydrocele being then very large indeed. He was admitted, and again tapped, but was told it was not any use to attempt the radical cure in his case; it would be sure not to succeed, and, moreover, would be attended with no little risk, on account of his two herniæ and the enlarged testicle: so the poor fellow came home quite disconsolate.

In July last, Jamieson applied to me, and entreated that I would do something for him. The hydrocele was now of an enormous size, and caused him the greatest inconvenience, combined as it was with two ruptures, for the support of which he had a very inefficient truss: in fact, the hydrocele rendered any very difficult of application. I at once determined, in spite of adverse circumstances, to tap him again, and use the iodine injection, as soon as his general health was in good order. I operated on the 22nd of July, drew off ℥52 of clear albuminous fluid, and injected ʒj. of the compound tincture of iodine undiluted. The operation caused very great pain, enough to lead to incipient syncope: however, a full dose of liquor opii sedativus quickly gave him ease, and in the evening he was tolerably comfortable.

23rd.—He has passed a very good

night: the scrotum swelled during the first twenty-four hours after the operation to two-thirds its previous size: he was pretty free from pain, but had a good deal of fever, and a pulse of 95. I gave him a simple saline every four hours after a brisk purgative draught, containing Magnesiæ Sulphas, and Vinum Antimonii.

24th.—Has again passed a good night; bowels fully relieved; the fever has subsided, pulse reduced to 80; complains of very little pain, and the scrotal tumor is much less. No bad symptom occurred from first to last; the sac of the tunica vaginalis was somewhat longer contracting than usual, but perhaps not so if the enormous size to which it was previously distended is taken into account. At the end of a month no one would have known on which side the hydrocele had been. I got him a nice truss to support the ruptures, and after this no amount of exercise that he could take gave him the least uneasiness. He is now quite well, and there is not the least symptom indicating even a tendency to a return of the complaint. Of course he is delighted that his friends (and mine) at Bartholomew's have proved false prophets.

The two following cases I have taken from amongst those treated at the Royal South Hants Infirmary, during my residence there; in the one the quantity of fluid removed would, I suppose, be considered rather large, in the other rather below the usual average. Both were under the care of R. S. Fowler, Esq., the senior surgeon.

Peter Heath, æt. 73, a healthy-looking old man, who had served in a man-of-war during his younger days, and had latterly followed several occupations, applied to me with a large hydrocele on his left side, and I admitted him into the Infirmary. He had suffered from his disease more than twenty years, during which time he had been tapped twice, but had only derived temporary benefit; the accumulation was now larger than ever it had been previously. After his secretions had been put into a healthy state Mr. Fowler tapped the hydrocele, and drew off ℥xxx. of clear albuminous fluid; ʒj. of the Pure Tincture of Iodine was injected, and allowed to remain. Very slight inflammation followed; in four days he was allowed to sit up, and in ten was discharged from the Infirmary, quite able to follow his occupation without inconvenience. I saw him eighteen months after the operation, and he had had no return of his disease.

John Bailey, æt. 40, a tall, powerful labourer, who had always enjoyed good general health, applied to me with a small hydrocele on his left side, and was admitted. He had been tapped twice, and a port-wine injection used, without any benefit. Two days after his admission Mr. Fowler tapped the hydrocele, and drew off ℥vj. of fluid; ʒj. of the Pure Tincture of Iodine was injected, and allowed to remain. Rather severe inflammation followed, and he did not leave his bed for eight days; but at the end of three weeks he was sufficiently recovered to leave the Infirmary, the walls of the sac being then entirely adherent. I have seen him since, and the cure is complete.

I could quote numerous other cases, for I have notes of every one that was treated during my stay at Southampton, and not a single case failed under the iodine plan. The two I have given were respectively the largest and smallest collections of fluid we had, and on that account I selected them.

The treatment by means of the undiluted compound Tincture of Iodine appears to me to possess very great advantages over former plans, in the fact, that the quantity of fluid required for use being so small, there must be less chance of any extravasation of the injection into the cellular structure of the scrotum, than if the sac of the tunica vaginalis were distended with many ounces of fluid, and I have seen very severe suppurative inflammation follow such an accident. Moreover, the eminent success which seems to attend this plan of treatment is a great argument in favour of its more general adoption for the cure of a disease which, usually attacking a man whilst his general health is good, its inconvenience is the more felt, as from this cause alone he may be prevented comfortably following for many years an employment for which he is probably in no other way incapacitated.

Farnham, Surrey, Dec. 30, 1850.

DISSECTION OF A CASE OF DIABETES MELLITUS,

SHOWING THE EFFECTS OF DIMINISHED NUTRITION, AND THE IMPERVIOUS STATE OF THE DUCT OF THE GALL-BLADDER.

By Drs. John D. Brown, and Frederick James Brown.

Strood, Kent.

The few particulars known respecting this case may be related previously to the description of the anatomical appearances:—

G. C——, æt. 27, a journeyman saddler, slightly made and tall, and of temperate habits, died on the 20th October, 1850, after an illness which was stated to be of two years' duration. He was a patient at the Rochester Dispensary for a considerable time, and received great benefit from the treatment pursued, so much so as to be able to continue at his employment till within one or two weeks of his death. He experienced several attacks of diarrhœa during the last three or four months that he lived. He daily passed a large quantity of saccharine urine, which, when tested in the early part of October, was of sp. gr. 1037. On the 18th, he was delirious in a slight degree, and was suffering under severe diarrhœa, which had commenced about two days previously, and which was accompanied by vomiting. Blue pill with opium was administered, but it failed to relieve the pains in the abdomen, or to check the purging. Fifteen minims of laudanum were then given in a draught, and repeated at seven o'clock on the morning of the 19th. About this time he passed a large quantity of urine, and soon after fell into a state of stupor. The pupils were contracted, respiration calm, and consciousness not wholly in abeyance. His hair was cut off, and cold water was applied to the head, and a blister placed on the nucha, whilst croton oil was dropped on the tongue. As the night approached he became delirious, and occasionally relapsed into a state of unconsciousness, with an extremely weak pulse. The cold applications to the head were discontinued, and beef-tea ordered, but he was unable to swallow it. He died at half past eight, A.M., 20th October. He had no motion, and passed no urine, after the occurrence of stupor on the previous morning.

Examination of the body thirty-four hours after death.

Rigor mortis very strongly marked. Very considerable emaciation.

Head.—Meninges of brain scarlet from injection by bright blood. Convolutions of the cerebrum and laminæ of the cerebellum loose and separated to a great degree, but without fluid intervening at the period of examination. The cut surfaces of the brain exhibited the usual amount of vascularity. The ventricles contained an increased quantity of clear fluid; and at the base of the brain there were four ounces of bloody serum. The consistence of the cerebrum was remarkably diminished, especially that of the grey portions, and the corpora striata were particularly soft. The pineal gland was in a state of disintegration. The corpus callosum tore into the form of an excavation on its superior surface on being touched. Some of the laminæ of the cerebellum were extremely soft. The whole brain had apparently suffered from general malnutrition, but no microscopic examination was made to determine the nature of the softening.

Thorax.—Pleural adhesions on the right side in both the filiform and membranous shape. Both lungs were emphysematous to a great degree, and weighed much less than is normal, notwithstanding their being loaded with blood. The heart was attenuated, and reduced very much in weight. Clots were found in the left auricle, as well as in the cavities on the right side of the organ. The calibre of the aorta was very small, but the valves were competent.

Abdomen.—The liver was enlarged, and felt flaccid. It contained an immense quantity of bile, of good appearance. The gall-bladder only contained a small quantity of slate-coloured mucus, and its duct was impervious, being thickened into a solid cord. The spleen was normal. The pancreas was much softened in its interior. The kidneys were loaded with venous blood, and the tubular portions were shrunk, and of a purple colour. The cortical structure was natural, but congested. The capsules could be separated without difficulty, and the exposed surface was smooth. The right kidney was rather smaller, and the left rather larger than usual. The urinary bladder was distended with urine.

The stomach was immensely enlarged, and its coats thickened and cartilaginous in appearance. There was arboriform redness of the mucous membrane, and the blood in the left extremity was blackened in the vessels. The small intestine was of augmented calibre, and the cæcum equalled a small stomach. The colon was rather diminished in size. No morbid appearances in the mucous membrane of the intestines.

THE DURATION OF HUMAN GESTATION.

We have received a long communication on this subject from Dr. T. G. Melhuish, of Lambeth, but, as it was published in a contemporary journal last week, we do not consider it necessary to reprint it in our pages. The principal point which Dr. Melhuish wishes to establish is, that human gestation, like that of some inferior animals, is influenced by the *sex* of the child, and that the period is longer with *male* than with *female* children. Thus, when the pregnancy has exceeded the time calculated upon, he has generally found the offspring to be of the male sex. In five cases in which it was believed that the exact date of *conception* was accurately fixed, delivery took place at the end of 260 days, the children being females. In a sixth case, that of a widow, the delivery of a female child took place two or three days after the expiration of nine calendar months from the death of her husband. Notwithstanding this exception, Dr. Melhuish is inclined to look upon 260 days as the full term of parturition when the child is a *female*.

In respect to *male* children, when the period had been calculated from a particular intercourse, Dr. M. has found a variation of three or four days. He thinks that it usually commences at 274 days, varying to 277 days, but *in no one case* has it reached 280 days. Bodily disease may lead to a prolongation of the term; but, from an experience of twenty-five years in the practice of midwifery, he thinks that no healthy woman has ever had her pregnancy extended to *ten calendar months*. Calculations should always be made by weeks and days, not by months. Dr. Melhuish very properly insists upon the uncertainty of calculating the period by calendar months. He says :—

"Throwing leap-year on one side, there are but two months in the year,—viz. July and December, wherein the conception must take place, in order that the nine calendar months should contain 274 days, at the end of which ordinary labour should commence. If a woman conceived in the months of January, February, June, August, September, October, and November, it will be found that the nine consecutive calendar months contain only 273 days. Again, if in March or April, then 275 days; and lastly, if in May, then 276 days."

⁂ Dr. Melhuish, it will be perceived, is an advocate of a fixed period of gestation, but the experience of other accoucheurs of good repute and accurate observation is totally adverse to this. In the 19th volume of this journal, p. 646, there is a report of a case observed by Dr. Montgomery, in which delivery did not ensue until between the 42d and 44th week, the *shorter* period considerably exceeding the *ultimate* period fixed by Dr. Melhuish. There is another case, by Dr. Lee, in which the pregnancy lasted 287 days (see Medical Gazette, vol xxxi. p. 917) : and, as to the influence of *sex*, two of the longest cases on record, observed by Dr. Murphy, corresponded to periods of 314 and 324 days respectively, and one child was a male, and the other a female! (Report of Obstetric Practice of University College Hospital, 1844).

In the Gardner Peerage case one witness said the period was 280 days for a female, and 290 days for a male child. He was then asked by the Solicitor-General to state what would be the period if the child were an *hermaphrodite!* We suppose, if this sort of relation between the period of gestation and sex existed, that there would be some fractional proportion of the difference between the two periods, according to the predominance of male or female sexual organs.

In Dr. Melhuish's five cases he was able to fix the date of *conception;* but in the generality of women how is this to be determined? And, if not accurately determined to a day, it is difficult to admit that five cases should be taken for the determination of a fixed point in all other instances, even allowing that the experience of others was not wholly opposed to the assumption.

MEDICAL GAZETTE.

FRIDAY, JANUARY 3, 1851.

In returning to the subject of the relative mortality at the London hospitals, we have to express our thanks to those gentlemen who have kindly furnished us with the necessary statistical returns, and who have thus enabled us to place before our readers some important facts not hitherto published regarding the yearly admissions and deaths.

Taking an average of *four years*, from 1846 to 1849 inclusive, the returns for many hospitals not being yet made for 1850, the admissions and deaths were as follows:—

	In-patients per annum.	Deaths per annum.	Deaths per cent.
St. Bartholomew's	5781	430	7·6
Guy's	3853	390	10·
London	4131	279	6.7
St. Thomas's	4019	279	6·6
St. George's	3588	266	7·4
Middlesex	2090	196	9·4
Westminster	1758	145	8·2
University College	1446	163	11·2
King's College	1262	127	10·
Charing Cross	1119	83	7·7
Total annual admissions	29,047	Deaths 2458	

It thus appears that while, according to Dr. Webster's estimate, there are, excluding the Free Hospital, 3083 beds in the ten principal metropolitan hospitals, these are annually occupied, on an average of four years, by 29,047 patients. The quarterly admissions of patients into the Parisian hospitals, excluding the *hospices*, average, according to a table printed in our former article,* about 20,000. It may appear rather surprising, in contrasting the populations of London and Paris, the latter being only about one-half that of the former, that the annual hospital admissions in Paris, compared with those of London, should be very nearly in the proportions of 8 to 3. At first view the number of local dispensaries and sick clubs in this metropolis might appear to account for the difference, but these do not more than counterbalance the admissions into the Parisian *hospices*. It might be further supposed that the cases admitted into the hospitals of Paris were not of so grave a character as those admitted into the London hospitals; but the mortality column shows that this is not the true explanation. The general mortality of the Parisian hospitals on 19,653 admissions in the quarter, has been shown to be as high as 10·8 per cent.; while, on 29,047 admissions into the London hospitals, there were 2458 deaths, giving an average mortality of only 8·4 per cent. There is no doubt that in the two cities the same patients are re-admitted twice, or more frequently, in the year, and are thus in some instances reckoned as new admissions; but this will not account for the difference in the rate of mortality. Hence we are reduced to the necessity of considering that there is not only a greater amount of *morbility* in the population of Paris, but that the diseases are of a more fatal character than those of London.

In the list of metropolitan hospitals we have not included the Free Hospital, because, as we are informed, mixed cases of destitution and disease are there admitted, and it thus presents an exception to the other ten institutions. In order to calculate fairly the relative amount of hospital-mortality, it must be known whether any selection be or be not made among the cases which present themselves for admission. If all applicants be admitted indiscriminately, it is possible that, by the frequent change of inmates after a few days' residence in an hospital of this kind, the ratio of mortality may be so lowered by the few deaths among long residents, that no safe comparison can be instituted with the deaths which annually take place in other hospitals. Nevertheless, if the numbers of admissions and deaths for the last four years be forwarded to us, we shall have great pleasure in publishing them.

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* See vol. xlvi. p. 1071.

There are some points connected with the table of London hospital mortality above given which require explanation. The year 1849 was the year of cholera in the metropolis. This would of course affect the admissions, and *pari passu* the mortality for that year in certain institutions. Having given the average admissions and deaths of four years, we may place in contrast the numbers of the cholera year, 1849.

Admissions and Deaths in the London Hospitals during the cholera year 1849.

	Admissions.		Deaths.
St. Bartholomew's 5668 Cholera 478	6146	432 Cholera 198	630
Guy's	3772		375
London	4090		298
St. Thomas's	4737		301
St. George's	3506		264
Middlesex	2176		199
Westminster	1746		189
University College	1364		183
King's College	1261		158
Charing Cross	1116		100

In comparing this with the former table, it will be perceived that, during the cholera-year, the admissions into St. Bartholomew's and St. Thomas's considerably exceeded the average. At Guy's and University College the admissions were below the average: at the other hospitals the difference in the numbers is but slight. The deaths for that year follow a nearly similar order of increase and decrease. We have no returns of the number of cases and deaths from cholera, except from St. Bartholomew's; and here it appears that more were admitted labouring under this disease than in any other institution in London, the cases having amounted to 478; and the deaths, in spite of the most assiduous attention on the part of the medical officers, and the trial of every plan of treatment, to 198 —*i. e.*, to 41·4 per cent.!

It has been suggested to us that the correctness of the numbers of admissions and deaths is open to a very serious objection, since it is the practice in at least one of these institutions to issue a fresh letter or ticket at the end of a certain period (two or three months), and the same patient is then numbered as a new admission. It has been stated that this practice exists at the Royal Hospital of St. Thomas's; and that the object of it is to give to this institution the opportunity of showing, by yearly numerical returns, the large amount of hospital relief afforded to the sick poor within the jurisdiction of the city of London. Such a practice is calculated to mislead not only the governors of charities, but the profession, and should be, beyond all doubt, abolished. Tickets to remain may be granted, but the bearers of these should on no account be numbered as new patients. It will be observed by the first table published in this article, that, next to St. Bartholomew's and the London Hospital, St. Thomas's appears to receive numerically a greater number of patients annually than any other institution in London. From the total number there given all readmissions should of course be deducted; for, by allowing them to remain, the obvious result is to give an untrue but apparent increase to the admissions, while at the same time the per centage of deaths is proportionably diminished. The extent to which this practice is carried not being known, the ratio of mortality assigned to this institution is a matter of uncertainty. It may be in reality considerably higher than it is there represented. From the table it would appear that there is no hospital in London in which the mortality is so low as at St. Thomas's. It is represented by the returns as only 6·6 per cent. of the admissions. We subjoin the separate returns of the four years:—

Admissions and Deaths in St. Thomas's Hospital during a period of four years.

	Admissions.	Deaths.
1846	3692	249
1847	3709	283
1848	4340	276
1849	4737	301

In 1848 there was apparently a considerable *increase* in the admissions, but an actual *diminution* in the deaths. In 1849 there was a still greater increase in the admissions, but *not* a corresponding increase in the deaths. Thus, although this was the cholera year, and was naturally considered to add to the mortality of those hospitals which freely admitted patients labouring under the disease, the deaths, by comparison with a non-cholera year, were actually fewer at St. Thomas's.

In 1847 the admissions were 3709, the deaths 283: in 1849 the admissions were 4737, the deaths only 301. To have maintained the ratio of 1847 they should have amounted to 361: hence, if we are to trust the figures, the cholera year, notwithstanding the great increase in the admissions, actually reduced the mortality of St. Thomas's by one sixth, or nearly 17 per cent.! We are informed, however, that the alleged increase in the number of admissions during the two last years of the return was only apparent, and that the increase was really due not to new patients, but to the new plan of readmitting the same patients after they have been in the hospital two months.

This practice does not exist at Guy's, the London, and St. George's Hospitals: hence the figures represent, as far as they can be shown on an average of years, the proportionate deaths to admissions. Thus in these hospitals a patient who remained four, six, or twelve months, would be estimated as *one*, while at St. Thomas's he would represent, *two*, *three*, and *six* distinct patients respectively!

Other influences are in operation to increase or decrease the amount of hospital mortality. Thus we may mention the proportion of *accidents*, compared with the cases of *chronic* or *acute disease*, received within the wards. Our space will not allow us to enter fully into this part of the subject. We must therefore reserve our remarks on these controlling influences for another occasion.

LICENTIATES OF THE ROYAL COLLEGE OF PHYSICIANS.

At the quarterly meeting of the Comitia Majora, held on Monday, the 23d of December, the following gentlemen, having undergone the necessary examinations for the diploma, were admitted members of the College:—Dr. Roberts, Brook Street—Dr. Rutherford Ancram, Valparaiso; also Dr. Brett, Southampton Street, Mornington Crescent; Dr. Sullivan, Chili; and Dr. Alexander, North Audley Street, were admitted extra-licentiates.

Reviews.

On Animal Chemistry in its Application to Stomach and Renal Diseases. By H. Bence Jones, M.D., A.M. Cantab. F.R.S., &c., Physician to St. George's Hospital. 8vo. pp. 139. London: Churchill. 1850.

Practical medicine has been greatly indebted to the late much-lamented Dr. Prout for his invaluable researches and contributions to animal chemistry, which "first established (as Dr. Jones truly remarks) the true connection between chemistry and medical practice." But not less is it indebted for the incitement which his labours have offered to such followers as Drs. G. O. Rees, G. Bird, and Bence Jones. By the investigations of these and other chemical pathologists, every advance in the science of organic chemistry is now made subservient to the elucidation of morbid processes, or to the fulfilment of the therapeutic indications of disease. This truth cannot be more practically illustrated than by a reference to the work which we here bring under the notice of our readers.

Dr. Jones's work consists of twelve lectures which were delivered at the conclusion of the course of chemistry at St. George's Hospital in 1849, and comprise the following topics:—Food, Digestion, Blood, Calculi, Quantity and Acidity of the Urine, Uric or Lithic Acid, Oxalate of Lime and Sulphates, Alkaline and Earthy Phosphates, Alkalescence of the Urine from fixed and volatile Alkali, Albuminous Urine, Diabetes and Diuresis, the Relation of the Urine to the Food and Animal System; and lastly, the General Method of Examination of Urine.

We shall make an abstract of, with a few extracts from, the lecture on Diabetes and Diuresis, in order to illustrate the connection between chemistry and practical medicine to which we have already alluded, and at the same time to exhibit the lucid style and fulness with which the author brings each subject before his readers.

"The proof of sugar in the urine (the author observes) is of primary importance: the question of how much sugar is comparatively of very little consequence. Hence the tests for sugar in the urine are of more value than the methods of making quantitative analyses of it."

"All the tests depend upon the facility with which the composition of the sugar is changed. For the medical man the most valuable test is the action of some metallic oxide, aided by heat and alkali, on the elements of the sugar. Oxide of copper and oxide of silver are most worthy of your attention."

The process by which the presence of sugar is detected in the urine is thus described by Dr. Jones:—

"To a drachm of suspected urine, add two or three drops of a saturated solution of sulphate of copper, and then two drachms of caustic potash; the hydrated oxide of copper, when first precipitated, re-dissolves if sugar or many other organic substances are present, becoming of an intense blue, and when heat is applied, if grape sugar be present, the oxide of copper is rapidly reduced, and reddish yellow sub-oxide of copper is precipitated.

"The reduction of the oxide of copper is effected by the carbon of the sugar; perhaps I shall make this more clear to you by the following diagram:—

$$\left.\begin{array}{l} \left.\begin{array}{l}\text{Sulphate of}\\ \text{Copper}\end{array}\right\} = SO^{3}CuO, HO \quad + \quad 4HO \\[6pt] \text{Potash} = \ldots\ldots\ldots\ldots \end{array}\right\} = \left\{\begin{array}{l} SO^{3}, KO \quad + \quad 4\,HO = \text{Sulphate of potash.} \\ Cu\,O, HO = \text{Hydrated oxide of copper.} \end{array}\right.$$

$$\left.\begin{array}{l} \text{Grape sugar} = C^{24}H^{28}O^{28} = C^{24}\,28HO \\ \left.\begin{array}{l}\text{96 Hydrated}\\ \text{oxide of}\\ \text{Copper}\end{array}\right\} = \left.\begin{array}{l}Cu^{96}O^{6}\\ 96\ HO\end{array}\right\} = \left\{\begin{array}{l}Cu^{96}O^{96}\\ O^{48}96HO\end{array}\right. \end{array}\right\} = \left\{\begin{array}{l} C^{24}O^{48} \times 124HO = 24\text{Carbonic acid, 124 water.} \\ Cu^{96}O^{48} = 96\ \text{Sub-oxide of copper.} \end{array}\right.$$

"If cane sugar instead of grape sugar be used for this experiment, the rapid reduction of the oxide to the sub-oxide will not take place; the bright blue solution will be formed, but the heat must be long continued to effect the reduction; uric acid and albumen will also effect a slow reduction of oxide of copper. You will from this see that it is the rapidity with which the grape sugar is decomposed that constitutes the test; and hence it has led and may again lead to many mistakes."

The oxide of silver test Dr. Jones

states is not quite so easy a test as the oxide of copper for the detection of sugar in diabetes, but may often be used as an additional proof where any doubt exists. This test is thus simply described by the author:—

> "A saturated solution of nitrate of silver is made; a few drops of this are to be placed in a test-tube, and a single drop of caustic ammonia is to be added: if a brownish oxide of silver falls, a single drop of the urine is to be added, and the test-tube is to be heated, and the contents well shoken. In a few seconds the sides of the tube will be coated with silver, and the metallic lusture will be seen."

Dr. Jones notices the use of potash alone as a test for sugar in the urine, which it indicates by a change of colour, but on that account is fallacious. The employment of fermentation, by which the quantity of sugar may be determined, is also noticed; also that of evaporating a drop of urine on a piece of glass over sulphuric acid:—

> "If by two or more of these tests the presence of sugar is established, it is not necessary to make a quantitative analysis; for the medical man a sufficiently near approximation is made by taking the specific gravity."

Dr. Jones considers that diabetes is by no means so rare as it has been said to be; that the delicate tests we possess will often detect it, long before the occurrence of its ordinary symptoms.

The author gives the following explanation of this disease. Referring to his lecture on digestion, Dr. Jones observes that he had traced the course of a grain of starch in its chemical changes, passing through dextrine, sugar, and vegetable acid, to carbonic acid. The disease diabetes is regarded by Dr. Jones to arise from an arrest or stoppage of these healthy and necessary changes. The series of change is stopped at sugar; from some cause the conversion of the sugar into vegetable acid and carbonic acid does not take place, and the whole series of changes may be indicated by the terms—starch, dextrine, and sugar.

The author in the next place shows, that a connection exists between excess of free acid in the urine, and the presence therein of sugar, the changes above indicated proceeding further than in diabetes, thus represented by starch, dextrine, sugar, vegetable acid. This form of disease Dr. Jones finds quite as difficult to treat, as sugar in the urine. Dr. Jones traces the changes which give rise to the variety of sugar found in diabetes insipidus:—

> "In insipidity this insipid sugar resembles sugar of milk; it differs from it in not giving rise to mucic acid, and in undergoing fermentation. The conversion of the insipid sugar into grape sugar, by the effects of acids, indicates its place in the series of sugars, and makes it probable that starch, in its passage through the system, undergoes this change also, and thus the whole series at present known will be, starch, dextrine, insipid sugar, sweet sugar, vegetable acid, carbonic acid."

In the observations on the *treatment* of this disease Dr. Jones observes, that our knowledge of animal chemistry is not at present sufficient to inform us why the changes, already stated, take place. Following, however, the combined indication of the chemistry of the pathological changes, and the semeiological features of the disease, acidity of urine with general emaciation, the author prescribes an alkaline and oleaginous treatment,—cod liver oil with ammonia, and a full meat diet.

The author points out the difference between diabetes insipidus and diuresis, (the disease termed *polydipsia* by Becquerel,) in which the urine is of low specific gravity, and contains neither form of sugar, nor excess of acid. We may here, in confirmation of the author's remarks, refer to a case that came under our care several years ago, which had been regarded as a case of diabetes insipidus, but which, on close investigation, was found wanting in the essential characters of that disease. On examining the state of the urethra, we met with several old strictures: the surgical treatmnet of these we noticed to be attended *pari passu* with a diminution in the quantity of urine voided daily, until the strictures being entirely overcome, the quantity of urine was reduced to the average standard, and no return of diuresis had occurred several years afterwards.

From the preceding observations it will be perceived that Dr. Jones's Lectures constitute a very valuable practical exposition of the connection between chemistry and medicine, more especially having reference to stomach and renal affections. They should be diligently studied by every student of medicine, either during his hospital education, or in his daily observation of disease as a practitioner.

These Lectures are so clearly written, every topic introduced is so fully explained and illustrated, that the mere beginner, and the busiest and most experienced practitioner, may alike reap much useful instruction from them.

Researches into the Effects of Cold Water upon the Healthy Body, to illustrate its action in Disease; in a series of experiments performed by the Author upon himself and others. By HOWARD F. JOHNSON, M.D., Physician to the Ferns Hydropathic Establishment, Alderley Edge, Cheshire. 8vo. pp. 190. London: Longmans. 1850.

THESE researches are dedicated, "with profound respect," to the "London Colleges of Physicians, Surgeons, and Apothecaries:" "still the author hopes they will not on that account be shunned by the non-professional person; for the latter must know that neither in diction nor in sentiment will there appear any technicality, so as to unfit it for his full and easy comprehension." We much fear it will be found that this attempt to inform minds so differently prepared to deal with opinions and statements, couched in the same forms of expression, must tend to introduce a want of precision into the argument which will not a little detract from its force.

In his "Dedicatory Epistle" Dr. Johnson complains (with little justice, considering its origin and pretensions) that hydropathy has not been officially investigated by the Colleges, as is the case with new drugs; but the parallel does not hold good in this instance. As well might the Colleges be expected to institute an investigation into the nature and properties of Morison's pills, or of any other notorious quackery, not even excluding mesmerism. But *orthodox* and *rational* hydropathy is not a dissent or secession from the medical profession," says the author, who has here undertaken the task of examining the physiological influence of water treatment. The volume before us contains his conclusions on its therapeutic value. We shall briefly notice these, and indicate what appear to us to be the fallacies which have been allowed to creep into the process of reasoning by which he attempts to sustain his views.

The experiments related by Dr. Johnson have been so conducted as to give the inquiry a scientific aspect; these have the merits of accuracy and precision; but we cannot shut our eyes to the fact that the inferences which Dr. Johnson has thence drawn are pushed too far, and that the therapeutic value of the water treatment is regarded by him with too partial an eye. We also think that too much importance is attached, or an untrue character given, to certain theoretical functional derangements of the system, to meet which the hydropathic treatment is here advanced. Dr. Johnson, however, denies the existence of functional disease, but fails, we think, to shew what it is otherwise:—certain symptoms invariably occur in an invariable series, and invariably no structural change is found to account for them in the organs affected; another series is found occurring uniformly in connection with structural change of organs.—Is it not something like verbal quibbling, positively to assert, without its demonstration, the existence of change of structure alike in both cases, in order to do away with an established practical distinction? The treatment is different, and the result also varies in the two classes of ailments. Not so, however, according to the author, who observes:—

> "Considering, therefore, the division of diseases into organic and functional to be altogether arbitrary, false, and absurd, and that all disease is organic, his duty is simplified: he has merely to show the effect of hydropathy through its influence upon the process of respiration in dissipating chronic disease,—in other words, chronic disease generally.
>
> "Chronic disease alone is mentioned, because cases of acute disease so rarely fall beneath the notice of the hydropathic physician that it is not worth while to bring it into discussion in this place."

The author in the next place propounds a notion which, with very great justice, he may think, "will at first sight," and, we should add, on closer inspection, "appear to the reader both novel and strange." "All chronic disease, of whatever class or denomination, and of however contrary natures," are, according to this notion of Dr. Johnson's, held to consist in one of the three following conditions:—too much, or too little, or an impure blood, in the part affected.

The means of remedying each of these morbid conditions is, *of course*, to be found in the water treatment. Doubtless, if his readers are prepared to follow Dr. Johnson in his leap over all the obscurities and difficulties of organic disease, including those of the nervous system, they will find little difficulty in adopting his therapeutic indications, since we do not dispute that the experiments which are detailed in his work as having been performed by him establish his position that the various modes of applying the water treatment have each their influence in increasing or decreasing the force of the circulation, and, by consequence, of modifying the respiratory movements.

Thus:—"The wet sheet lowers the pulse, diminishes the heat of surface, and relieves pain." "The douche sometimes elevates the pulse, but always accelerates the function of respiration." "The blanket-packing quickens the pulse, and produces perspiration." "The shallow bath generally quickens both circulation and respiration—always the latter." "The sitz bath lowers the pulse, but leaves the respiration unimpeded." In all, the balance between the heart and lungs is disturbed in favour of the latter. These experimental results merit attention. The conclusion is equally just, doubtless, that these means must be efficient in meeting the two first indications of treatment under the author's pathological views—viz., the reduction or augmentation of the circulation—but it does not thence follow that the changes so produced are equivalent to a purification of the blood, as asserted by Dr. Johnson. The term "impurity of the blood" is most vaguely used, especially in semi-popular writings (see Morison's Advertisements, passim). Even in the work before us the employment of this expression is not supported by the experimental proof that is adduced with regard to the quantity or the rate of movement of blood in a part. It is not perfectly true, as stated by Dr. Johnson, that the more rapid the circulation, in the same ratio as the function of respiration is expedited, so is the aeration and purification of the blood more complete; else should fevers and acute inflammations always tend to a cure, and every constitutional disease should be curable by those means that accelerate the pulse: such, however, all practical men know is not the case; and the countless cases of tubercular and other diatheses would not, were it true, developе the fatal forms of disease that they are too well known to do.

Scientific pathologists have given the results of their analyses of blood in various diseases as compared with the same fluid in health. It is not too much to demand that Dr. Johnson should furnish analytical proofs of the composition of the blood before and after the hydropathic treatment, as well as the experimental proofs he has given of the influence of the latter on the rapidity of the circulation.

We freely admit, however, that a large class of maladies would come within the author's definition of disease, and also be amenable to his treatment. A large class would include the majority of chronic diseases; but these have ever formed the "stock" of every new "system" of medicine, and have especially constituted the cases in which hydropathy has been employed. If, therefore, Dr. Johnson has not shown that he can with advantage extend hydropathic treatment to acute and chronic diseases equally, he has not advanced it beyond tho point to which his predecessors had brought it. Nevertheless, so far he has done what others have not done; he has in some degree rescued this mode of treatment from the domain of conjecture and quackery, by placing it, as far as he goes, on a basis of experiment, and giving it, *pro tanto*, a scientific appearance. That his deductions are open to objection arises mainly out of the peculiar theory of disease which he has constructed from the facts observed by him with reference to the physiological action of cold water.

Verhandlungen der physicalisch-medicinischen Gesellshaft in Würzburg. Redigirt von A. Kölliker, J. Scherer, R. Virchow. Erster Band, Nro. 1—5. 8vo. pp. 79. Erlangen. 1850. *Transactions of the Medico-physical Society of Wurtzburg.*

We have here to announce to our readers the publication of a new German periodical, devoted to the physiological and medical sciences, under the superintendence of the three distinguished physiologists whose names appear on its title-page, as copied above.

The following are the contributions to this first volume:—

1. A Case of Regeneration of the Inferior Maxilla after Necrosis from the action of phosphorus. By Hr. Virchow.
2. New Researches on the Production of Sound in the Organs of Circulation. By Hr. Kiwisch.
3. On the Development of the Leaf-organs in the Berberine (Oxycantha Galeni, Barberry). By Hr. Schenk.
4. New Researches on Acid Gases. By Hr. Osan
5. A New Variety of Sugar found in the Flesh of Oxen. By Hr. Scherer.
6. On the Division of Primitive Nerve-fibre in Man. By Hr. Kölliker.
7. On the Microscopical Anatomy of the Tactile Hairs (*Tasthaare*). By Hr. Gegenbauer.
8. The Microscopical Anatomy of the Human Teeth. By Hr. Herberger.
9. Notice of a Process for the Separation of Copper and Nickel in large quantities.
10. On the Nerves of the Bones in Man. By Hr. Kölliker.
11. On the Formation of Fungi in the Ova of Fowls. By Hr. Schenk.
12. A Discussion on Vascular Murmurs.

We shall endeavour to give a brief and close abstract of one or two of these contributions. Among the most interesting we select Professor Kölliker's Researches on the Ultimate Divisions of Nerve-fibres and on the Nerves of Bones.

On the former of these subjects Professor Kölliker states that the nerves of the periosteum present numerous successively repeated bifurcations, so that in a short course a single fibre will undergo six or eight subdivisions These subdivided fibres are from 0·002 to 0·004 of a line in diameter; and, so far as has been ascertained by Professor Kölliker, appear to terminate freely.

The nerves of the interosseous membrane of the leg exhibit fine threads descending from the nerve to minute ultimate divisions.

Thread-like branches were seen springing from the nerves of the skin and glans penis, and entering the papillæ.

In the mucous membrane of the vagina, and of the conjunctiva, the numerous minute subdivisions of the nerves present a threefold arrangement.

With reference to the nerves of the bones the author observes that all the bones of man possess nerves, with exception perhaps of the small bones of the ear, which he has not examined. In the larger long bones they enter the foramina with the nutrient vessels, and entering the medullary canal, and there following the course of the vessels, are distributed in the canal, where occasionally anastomoses may be found. Numerous branches are also seen piercing the compact substance of the bone.

The bodies of short bones, as the vertebræ and carpal and tarsal bones, are rich in nerves, entering with the vessels, and are distributed to the spongy tissue.

In the scapula and ilium the nerves are very numerous, entering with the vessels, some on the surface, and others by the joint. In the sternum and cranial bones they are less numerous, but are discoverable here and there by the microscope. Professor Kölliker proceeds to the consideration of the functions of these nerves, and their relation to pathological phenomena. This portion of the author's observations we are compelled, from want of space, to pass over, and content ourselves with subjoining the measurements of these nerves:—In the femur, from 0·12‴ to 0·20‴; tibia, 0·160‴ to 0·008‴; fibula, 0·060‴; humerus, 0·070‴ to 0·006‴; metatarsus, 0·060 to 0·020‴; phalanx, 0·010‴; ilium, 0·001‴ to 0·010‴; scapula, 0·036‴ to 0·014‴; lumbar vertebra, 0·25‴; parietal, 0·012‴.[*]

Having thus brought the publication of this journal under our readers' notice, we strongly recommend it to their attentive perusal. We shall take future opportunities of quoting articles of interest from its pages.

The Anatomist's Vade-mecum: a System of Human Anatomy. By Erasmus Wilson, F.R.S. Small 8vo. pp. 656, fifth edition. London: Churchill. 1851.

We are glad to welcome a fifth edition of this ***multum-in-parvo*** of anatomical information. We think we may fairly say that no manual of anatomy has ever before met with such a favourable reception as this. Whether we regard conciseness and clearness of description, accuracy of detail, or the admirable character of the illustrative wood-engravings, we know of no work which is better calculated to serve as a guide to the student at the dissecting table. Even those venerable gentlemen who think that medical science is now ruined by small books, and who sigh for folios and quartos, must admit that this Vademecum is a better student's companion than the ponderous octavos of a quarter of a century since. In fact, a slight examination will show that, although its size is smaller by one half, it contains, by reason of the close type employed, double the quantity of matter.

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[*] The German sign ‴ stands for a line, or 1-12th of an inch.

Physico physiological Researches on the Dynamics of Mesmerism, Electricity, Heat, Light, &c., in their relations to Vital Force. By Baron CHARLES VON REICHENBACH. Translated by JOHN ASHBURNER, M.D.

IN our number for October 4th, p. 585, we gave a general notice of the two rival translations of Reichenbach's singular researches. The part now before us completes Dr. Ashburner's translation, which, as we have already remarked, enters deeply into the results obtained by Reichenbach in his remarkable experiments on the *Od* force. The cases, if unexaggerated in their details, are of a most extraordinary kind. The whole subject requires re-examination at the hands of a cautious philosopher not liable to be led away by enthusiasm, or by that fallacious judgment which often accompanies the desire of making great discoveries.

The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. GERHARD, M.D., Lecturer on Medicine in the University of Pennsylvania, &c., &c. 8vo. pp. 351. Philadelphia: Barrington and Haswell. 1850.

IT cannot be expected that all the diseases of all the thoracic viscera can be fully treated of within less than four hundred pages, possessing, as we do, classical works on diseases of the Heart alone greatly exceeding that extent. So far, however, as it is possible to condense so many topics within a small compass it has been well done in the work before us, which has grown out of a brief manual of the author's lectures. As a text-book of an extensive and serious class of maladies we consider Dr. Gerhard's Manual of great value, presenting a luminous summary of their symptoms and pathology, with very useful and judicious remarks on the subject of treatment.

An Essay on Intestinal Auscultation. By CHARLES HOOKER, M.D. Pamphlet. 8vo. pp. 14. Boston, U. S. 1849.

THIS is a short practical Essay, the result of careful observation. The chief result, however, at which the author arrives, is rather of a negative character. By the aid of the ear applied over the regions of the intestines, the peristaltic motion may be ascertained. By the application of this information, the author's prognosis of several diseases,—*e. g.*, cholera, colic, and diarrhœa, has been considerably assisted. The more general adoption of this aid to diagnosis might probably be attended with advantage. The author is entitled to thanks, at least, for endeavouring to draw the attention of the profession to the subject.

URINE OF A BLUE COLOUR.

A MAN, 56 years of age, who had been excessively addicted to spirit-drinking, was attacked, as the consequence of aneurism of the heart, with ascites and hydrothorax. One morning the urine was found to be of a blue colour, and possessing an ammoniacal odour and an alkaline reaction. Left to settle, it deposited a slightly greenish-white precipitate, and a blue ring around the sides of the glass, as also several bubbles of a blue colour, which adhered to the glass on decanting the fluid. After filtration this fluid had the colour of bile, and it effervesced with nitric acid. The dried deposit had an earthy appearance, and, with a lens, was seen to consist of small brilliant crystals. Chemical analysis showed the presence of phosphates of lime and magnesia. The blue colour was discharged by nitric acid, leaving a yellow spot, and was restored by a drop of concentrated sulphuric acid.

This was regarded as an instance of the formation of indigo in the human organism.

The patient died five weeks after. A post-mortem examination was not permitted.—*Journal de Chimie Médicale.* X

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

December 3 1850.

Mr. **Solly** exhibited a specimen of

Cancer of the Prostate Gland,

from a child three years of age, who first complained of pain at the lower part of the stomach and a difficulty in making water about three months ago, and occasionally since, but played about during the intervals of pain without apparent suffering. On the 13th of November Mr. Solly passed a small catheter into the urethra, but met some obstruction about the bulb, and again at the neck of the bladder, and could not introduce it fairly into the bladder so as to draw any water. A warm bath and an opiate were ordered. By the rectum, the bladder appeared to be contracted, and it was concluded to be empty. On the 14th Mr. Solly was again foiled. On the 15th he succeeded in introducing a very small catheter, and drew off nearly a pint and a half of urine. The instrument entered the bladder with great difficulty, and was very tightly grasped. The boy suffered much while it was in the bladder,—so much so, that it was withdrawn. On the 16th it passed with less difficulty, and, not producing irritation, was retained in the bladder till the 18th, when it was removed; and now a grating sensation was felt, such as might be communicated by a stone; but it did not strike nor move anything. On the 19th he had passed urine freely. The catheter was again introduced, but did not satisfy Mr. Solly of the presence of a stone. Having touched something like a stone in passing the instrument through the neck of the bladder, on the 21st an experienced hospital surgeon was asked to introduce the catheter, and he, upon examination, expressed his conviction of the presence of a stone.

On the 23rd, Mr. Green sounded the boy, and stated that he could not positively feel a stone, though something very like one, but not sufficient to justify an operation. The boy died the next day with symptoms of peritonitis.

Examination.—Turbid serum effused with flakes of lymph in the cavity of the abdomen; the peritoneum inflamed; bladder contained about an ounce of urine: in the situation of the prostate gland there was a lobulated firm tumor about the size of a hen's egg, through which the urethra could be traced. The tumor presented a cream colour on section, and a lobulated condition, with a fibrous tissue surrounding the lobules, giving it a gristly feel. Mr. Ramsey examined it under the microscope, and found that it contained innumerable cells. Mr. Stafford has related a similar case in the 22nd volume of the Medico-Chirurgical Transactions. The child was five years old; the tumor equal in size to the largest walnut, and consisting of encephaloid and melanotic matter.

Mr. **Stanley** exhibited a specimen of

Rupture of the Endocardium of both Auricles of the Heart, and the Pericardium of the Left Auricle, the consequence of Violence.

A man, aged 38, was brought to St. Bartholomew's Hospital with compound fracture of his leg, which had happened an hour previously.

Whilst standing directly under a plate of iron, weighing 8 cwt., he heard the snap of a bolt, and instantly threw himself backwards, and fell with considerable force on the ground. The plate of iron dropped on his left leg, which was resting on another mass of iron behind it. Thus the limb was smashed between the masses of iron, producing a compound fracture of both bones of the leg, with extensive laceration of the muscles. On the following day the limb was amputated above the knee. The shock of the accident and of the operation did not appear to make a serious impression on the system; accordingly the progress of the case was favourable to the fifth day, when inflammation ensued extensively through the cellular tissue of the thigh, accompanied by depression of the vital powers. As he continued to take plenty of nourishing food, with a moderate quantity of brandy, his recovery was not considered hopeless; but on the morning of the twelfth day he became suddenly pale and exhausted, and shortly afterwards he died. Throughout, the predominant character of his pulse was that of feebleness and frequency. During the last few days of life the breathing was oppressed.

On opening the pericardium, a clot of blood, about the size of half-a-crown, was found loose in its sac. A smaller clot was found lying upon the auricles. Several small effusions of blood were observed between the pericardial covering and muscular substance of the auricles and ventricles, more especially of the former. In the posterior part of the right auricle, between the fossa ovalis and inferior vena cava, a rent, about an inch and a half in length, was discovered in the endocardial membrane of the auricle. In the posterior part of the left auricle, between the pulmonary veins, similar rents were discovered in the pericardial and endocardial membranes. The muscular parietes of each auricle were entire, except at one point in the left auricle, where, in the line of the rent through the pericardial and endocardial membranes, a small aperture was discovered between the muscular fibres, through which it appeared that blood had passed from the auricle into the sac of the pericardium. The lungs contained much serous fluid.

Mr. Charles Hawkins begged to make a few observations on the very interesting preparations before the Society; he was anxious to do so because they illustrated a very important point of practice with regard to the operations of lithotrity. He considered them as the result of *the accidents* of the operation, but not as a common result. It had fallen to his lot to see the operation of lithotrity performed in private practice several hundred times, and in the course of this experience he had only seen this accident occur four times. In two the fatal result (as shown by the preparations now before the Society) had been averted by timely cutting down on and removing the impacted stone, and by thus making an external opening into the urethra, avoiding all the unfortunate results of a piece of stone lodging in a lacerated portion of that canal, such as infiltration of urine and abcess, certain results of such an accident, if no external opening be made, and the piece of stone remaining in the urethra. But he believed this accident might be entirely avoided, if the operation of crushing be performed with the lithotrite,—that is, if the operator is satisfied with crushing the stone, and not attempting to withdraw the fragments between the beaks of the instrument. He believed this accident never occurred except where the urethra had been lacerated with a piece of stone, during the withdrawal of the instrument; then impaction of a fragment led to the results which the preparations exhibit, but where the urethra has not been lacerated, impaction is of little importance, and no dangerous symptoms are likely to result from such an occurrence. At least this was the result of his experience. Since no attempts have been made to remove fragments from the bladder in the instrument, he had met with no such accident. Impaction, when the urethra is not lacerated, does occasionally occur, but with care all danger may be avoided. He had removed as much as half a wine glassful of detritus by means of a small silver scoop, without any difficulty, in a late case under his care. He had been obliged to remove a large portion of the stone by this means; indeed, so easy was it, that this patient uses the instrument himself in the same manner.

He believed that the result as shown by the preparation was merely the result of the urethra having been lacerated, and stones becoming impacted in such rents, and not that the laceration of the urethra was caused by the stone becoming impacted. He had never seen any danger arise where there had been no bleeding from the urethra following the operation. As far as his experience went, it was not necessary to attempt the removal of stone in the scoop —lithotrite. If the stone is *well crushed* it may be left to nature for the bladder to be evacuated of the fragments, or where there was a difficulty in passing them, he had removed much by means of washing out the bladder. This accident had never occurred in his own hands. Abscesses will form in the neighbourhood of the bladder after lithotrity, where there has been no *impaction*, nor laceration, nor the least injury of the bladder or urethra.

Mr. Pollock had assisted him to make a post-mortem examination of a most interesting case of this nature, where a large abscess had formed between the bladder and rectum, where there was not the *slightest* injury to the urinary apparatus, where all the stone had been removed, and where the patient was convalescent, but where the cause of death appeared to have depended on that state of heart so well described by Dr. Quain, the patient dying *instantaneously* on making some sudden exertion just after his dinner.

Dr. Quain presented from Mr. James Ilott a specimen of

Large Exostosis from the Lower Posterior Angle of the Right Parietal Bone.

In the dried state the exostosis measures in length 3 inches on its anterior, and 2¼ inches on its posterior aspect, and at its base (being conical in shape) 2½ inches in diameter, at its apex little more than half an inch. It was slightly constricted at its middle. The surface resembles the texture of the outer table of the skull. The apex is covered with a thin hard black layer, being a portion of bone in a state of exfoliation. The internal surface of the skull, corresponding to the tumor, is natural; a vertical section of the tumor shows its connection to the parietal bone by a pedicle, about ½ of an inch in diameter, the remaining portion being separated by a narrow interval from the outer surface of the skull. It resembles a pine cone or conical mushroom fixed by its stem, which latter resembles the tissue of the outer table of the skull. The remaining portion of the exostosis cellular in texture. The structure of the tumor presents the character of true bone.

The specimen was taken from a man æt. 40. The tumor commenced about twenty-six years before death, and was ascribed to a blow. Several metropolitan surgeons had seen the case, but declined to interfere with it. When seen by Mr. Ilott he was suffering from disease of the liver and kidneys, of which he shortly afterwards died.

An examination showed a granular condition of liver and softening of both kidneys, which also contained several small abscesses. The mode of attachment of this large tumor by so comparatively small a base suggested a point of much practical interest,—viz., that if the nature of this connection could have been ascertained during life, it might probably have been removed with safety.

Mr. Coulson exhibited a

Portion of the Abdominal Parietes from a Married Woman, t. 56, who had been tapped eighteen months before for Ovarian Dropsy.

The wound from the trocar never healed, but presented a red, puckered, mamillated projection, which increased to the size of a crown-piece. The integument in its vicinity soon began to thicken, and presented a nodulated appearance, leaving no doubt of its malignant character. The dropsical enlargement did not return. About a month before death she complained of great pain in the region of the wound, and fæcal matter was observed to ooze from it. Vomiting also came on at this time, and was somewhat mitigated by large doses of opium.

Examination.—A cyst sufficient to contain a large orange was found internal to the opening into the abdomen. It was lined by a smooth membrane, and externally composed of a dense (almost fibrous) tissue. How the sac was formed it is difficult to say. The small intestines were situated round the cyst, and at one part a portion of the ileum was agglutinated to it. At this point the intestine had ulcerated into the cyst. In the right ovary there was a cyst about the size of a small egg: the left was healthy. No sign of disease was observed elsewhere.

Mr. Coulson thought the preparation interesting because—1st, the wound from the tapping had never healed; 2d, a simple wound in healthy integument had caused, or was followed by, malignant disease in the part; 3dly, the dropsy had never returned.

MEDICAL SOCIETY OF LONDON.

Dr. R. Bennett, President.

December 28, 1850.

Dr. Ogier Ward narrated the particulars of a case, in which during life the leading symptoms were cough, constipation, convulsive action of the muscles of the eye, spasm increasing to opisthotonos and trismus, the child being unweaned. After death tubercles were discovered in the membranes of the brain; in the lungs, mesentery, and spleen; there was likewise emphysema. The points of interest Dr. Ward considered lay in the fact of tubercles occurring in an unweaned infant, in the co-existence of tubercle and emphysema, and in the great determination to the cerebral membranes during teething.

On the Physiological Effects of Picrotoxine, or the Active Principle of Cocculus Indicus.

A paper from Dr. Glover, upon the above subject, was read by Dr. Routh, one of the secretaries.

The deduction from a number of experiments upon the different classes of vertebrate animals was, that picrotoxine produced symptoms very nearly analogous to those attendant upon hydrophobia.

Exp. 1.—A dose of twenty grains of picrotoxine was given to a dog. After twenty minutes it produced salivation, tremors, succeeded by opisthotonos, convulsions, and great difficulty of breathing, recovery taking place.

Exp. 2.—Thirty grains inserted under the skin of the axilla of a dog. Similar symptoms were produced, and in addition bloody stools and urine. In three days the dog recovered.

Exp. 3.—40 grains were given to a dog. Retrograde and gyratory movements were produced. Tetanus killed the animal. Post-mortem examination displayed the brain in a state of congestion, particularly at its base, and having much bloody serum in the ventricles. The muscular irritability was destroyed.

Exp. 4.—60, 120, and 100 grains were successively introduced under the skin of a donkey. The two first doses not producing much effect the third was given, which speedily induced salivation. The animal pawed the ground with his fore feet, ran backwards, and died in a tetanic condition.

Exp. 5.—10 grains were inserted under the skin of a rabbit. In 59 minutes the animal died.

Exp. 6.—4 grains in the axilla killed a pigeon.

Exp. 7.—5 grains given to a frog produced no effect until the expiration of fifteen minutes, at which time it was attacked with opisthotonos.

Exp. 8.—5 grains were thrown into the water in which a gold-fish was placed. The animal became much excited, and leaped from the water two or three times.

The author drew attention to the circumstance of the effects of the poison simulating those produced by the gradual removal of the cerebellum and corpora quadrigemina, and to the fact of an increase in the animal temperature. No coma occurred in any of the above cases.

Hospital and Infirmary Reports.

GUY'S HOSPITAL.

Injury to the 5th and 6th Cervical Vertebræ—Paraplegia and Anæsthesia of the inferior half of the body—Recovery in 6½ months.

Edward Slade, æt. 38, was admitted into the Accident Ward, Guy's Hospital, under the late Mr. Key's care, January 16th, 1849. He is a married man, residing at Horsleydown, by occupation a corn porter; has enjoyed general good health, though his habits have been rather intemperate; states that, on the day of admission, whilst conveying some empty sacks from one warehouse to another, he fell from a plank, on which he was walking, to the ground—a distance of about thirty feet, and says he pitched on the back of his head and shoulders—a statement which was confirmed to some extent by the condition of his clothes. He was immediately carried home (a short distance from where the accident happened) in a state of insensibility; and, on recovering a short time after, he was unable to move his lower extremities.

In appearance he is a strong, muscular man, of dark complexion; his face is somewhat flushed, and the respiration is diaphragmatic; skin warm and moist; pulse 60, full, and rather labouring; all power of voluntary motion is entirely lost in both lower extremities, whilst sensation is very imperfect as high up as the umbilicus; but there is more in the left leg than in the right; there is also slight paralysis of his left superior extremities, as well as partial priapism.

On examining the neck, a considerable protuberance was found corresponding to the 5th and 6th cervical vertebræ, in which situation there was also extreme tenderness and swelling; and, after a careful examination, Mr. Hilton detected distinct crepitation of a bone.

His fæces were passed involuntarily; the urine required to be drawn off by means of a catheter, was found to be acid, and natural in other respects. He appears quite collected when spoken to, and answers questions rationally.—Pil. Colocynthidis c. Cal., gr. xv. statim c. Cucurbitulæ Cruentæ Nuchæ ad ℥viij.

17th.—He has slept occasionally during the night, and at present feels very sick, but has not vomited; the respiration is more tranquil, though still diaphragmatic; the paralysis and state of the sphincters continues just as before; bowels freely opened; tongue covered with white fur.

18th.—Sensation is returning in the inferior extremities, but he complains very much of a sense of tightness and oppression at the scrobiculus cordis; is quite free from pain about the seat of injury; face rather flushed; skin hot, but perspiring; pulse 60, full and labouring. Mr. Key gave an unfavourable prognosis, stating that cases of this sort, which seem to recover for a time, generally die from the effects of softening of the spinal cord: he ordered the patient to continue in the recumbent posture on his back, and to keep his neck perfectly quiet; the catheter to be introduced daily as often as required; to have low diet.—Hyd. cum Cretâ, gr. v. bis die.

20th.—Sensation is gradually returning; he still complains of pain and tightness at the epigastrium; the bladder requires to be emptied three times during the day; urine still continues acid.—Applicetur cataplasma Lini scrobic. cordis.

22d.—He experienced relief from the poultice; his system is now becoming slightly under the influence of mercury, as evidenced by tenderness of the gums, fœtor of the breath, &c., with a white and moist tongue; in other respects he continues much the same.—Omit. Hyd. c. Cretâ.

25th.—Sensation is now quite perfect in the right inferior extremity: it has also decidedly improved in the left, but is still rather imperfect. The power of voluntary motion is somewhat improved; and in this circumstance the right limb has also the start of the left. He complains of pains in his superior extremities, in which sensation is perfect, but the movements of the limbs are very feeble.

27th.—Bowels are constipated, and he is much troubled with flatulence, whilst the abdomen is large, tense, and somewhat tympanitic; states that he now occasionally feels his urine dribble away from him: when first passed it is slightly acid, and of an offensive odour, containing a little mucus, and, after standing a short time, becomes ammoniacal.—Ol. Ricini, ℥j. statim sd.

29th.—The urine is more ammoniacal, containing a large quantity of thick, tenacious mucus: fæces and urine still passed involuntarily.—To have the bladder washed out with tepid water.

Feb. 3d.—During the last two days he has been complaining of pains shooting down the outer side of his left leg towards the heel, including the distribution of the musculo-cutaneous, with slight tenderness on pressure, whilst the ankle is somewhat swollen; he can move his right leg, but not his left; sensation is perfect in both. Bowels are very constipated, being seldom opened without the aid of purgatives. Fearing the formation of bed-sores, from long-continued recumbency in one posture, he was ordered to be placed on an air-bed; and, support being now indicated, to have Wine, ℥vj.

8th.—He complains of pain, with a sense of numbness on the inner side of the forearms, in the course of the ulnar nerves. Can move his arms freely, but is incapable of grasping firmly with either.

12th.—Still suffers from pain in the calves of both legs, more especially in the left. Pulse 56, small and feeble. His general health seems rather deteriorated, and he has lost flesh lately; countenance anæmic.—To have beef-tea, &c., and continue the wine.

20th.—He has not the least command over his sphincters, and the stools and urine are still passed involuntarily, although he is now sensible of the passage of both; the power of voluntary motion is evidently on the increase; bowels constipated.—Haust. Sennæ pro re nata.

27th.—Is not so well; there is slight febrile excitement; pulse accelerated; tongue coated with a white fur; urine is still highly alkaline and ammoniacal, containing abundance of mucus. His bladder is washed out daily, which affords him great relief.

March 2d.—The febrile symptoms from which he suffered have entirely disappeared; he now complains of pain, with a sense of constriction, across the lower part of the abdomen, which is still distended and tympanitic; is quite free from pain in his neck.—Ordered Acidi Nitrici Diluti, ♏xv.; Tr. Hyoscyami, ♏xx.; Ex. Infus. Pereiræ, ℥j. ter quotidie.

14th.—The tonic seems to agree with him; his appetite and general appearance have much improved, and he was allowed middle diet. From this time he continued to progress as favourably as could be expected, frequently suffering, however, from a sense of constriction across the lower part of the abdomen, as also occasional pains in the arms following the course of the ulnar nerves; and, on the 24th, he was enabled to move both inferior extremities tolerably well without perceiving any difference in the two; power of control over the sphincters continues to increase, whilst the urine is, if anything, less offensive.

April 14th.—Was allowed to sit up in a chair for ten minutes whilst the bed was being made. Feels stronger, but is quite helpless at present.

On the 30th he had regained sufficient power over the sphincter ani to enable him in general to retain his fæces for a short time; however, he could not command its action at all times.—Mr. Key ordered him to sit up in a chair daily, and exercise his lower extremities. The patient's general health was now much improved, whilst the urine was less alkaline, and contained less mucus. The bladder is washed out occasionally.

May 10th.—He gets up daily for an hour or two, and exercises his limbs, but his legs are as yet quite unable to support the weight of the body; occasionally complains of pains in his arms and tightness across the abdomen; his bladder has not been washed out lately; the urine is still slightly ammoniacal. His control over the sphincters is rather limited, as he is obliged to yield very quickly when fæces have passed into the rectum. Mr. Key is still of opinion that the body of the 6th, and perhaps also of the 5th cervical vertebra, was fractured; there is a hard enlargement and thickening of the parts on either side the spines of the vertebræ in that situation.

June 10th.—He can now walk about with the assistance of crutches, although at present not with a very firm step; his general health, appetite, and appearance, are much improved; quite free from pain.

July 4th.—He could walk pretty firmly with the assistance of a small stick, and has perfect command over both his sphincters; is quite free from pain or uneasiness in any part; and, after being enjoined to keep quiet for a time, and take great care of himself, he was discharged from the hospital.

This patient again presented himself at Guy's, December 15th, 1850, very nearly two years having elapsed since the accident. States that he felt very weak for some months after leaving the hospital, when he gradually regained his strength and powers of motion up to his present standard, but for twelve months past there has been little or no alteration. Says he can now walk about his house without any assistance, yet out of doors he generally requires a stick, and by the aid of this he can walk a mile without much inconvenience: however, on exceeding this (for he has occasionally walked three miles without resting) he suffers from pain in the course of his spine, commencing between the scapulæ, and extending down to the sacrum, attended also by a sense of heat, which he compares to sitting with his back before a large fire. Occasionally when sitting, but more frequently whilst walking, he feels a sudden desire to pass his water; but on attempting, finds he is unable to do so immediately, and it is with considerable difficulty that micturition can be accomplished; he generally passes his urine twice, though sometimes only once in 24 hours; it varies in quantity from one to two quarts, occasionally contains lithates, but without any evidence of mucus. He says the desire to micturate is quite of a different character from what it used to be prior to the accident; is unable to express his sensations clearly, but a sense of weight chiefly predominates. His bowels are generally constipated, frequently for a week together, so that he constantly requires to take laxative medicines, and defecation is never accomplished without considerable muscular effort. He states that the desire to defecate frequently becomes very urgent, continues for a period of ten to fifteen minutes, and then passes off altogether.

He has never regained that power in his upper extremities which he enjoyed previous to the accident; and partly from this, as well as from his legs being unable to support his body in attempting to carry a weight, he has never been able to do any work since. The movements of the lower extremities are much improved, though still imperfect. The right side of his body, he says, is much stronger than the left; and on the right leg he evidently places most confidence in walking, whilst the left may be observed to drag slightly after him; and this, coupled with a peculiar swinging of the left arm, owing to the left side of the body being advanced altogether during locomotion, gives him the precise appearance of a person recovering from an attack of hemiplegia. He says that a want of power and a feeling of stiffness always prevail in the left leg, and occasionally, after exercise, he is unable to raise it from the ground: sensation, however, is quite perfect in both; whilst the temperature on the left side is generally less than on the right, although occasionally, after remaining quiet for a time, he has discovered that both lower extremities were unnaturally cold without his having been previously aware of it. Says he frequently suffers, especially on change of weather, from a tingling sensation in the inner part of both fore-arms, extending to the little and ring fingers, but without affecting any of the others, evidently in the course and distribution of the ulnar nerves. He can grasp somewhat firmly, though not forcibly, with both hands, the right being the most powerful; whilst the muscles of both the upper and lower extremities are somewhat atrophied from disuse. On examining the former seat of injury the spines of the fifth and sixth cervical are not more prominent than natural, neither does it cause him any uneasiness on firm pressure being made. Flexion and extension of the neck are performed naturally, and he can turn the head to either side without inconvenience. States that ever since the accident he has been, and is still, subject to involuntary fractures of both lower extremities, but more especially of the left, on first going off to sleep; and indeed this, as well as the other symptoms just enumerated, all tend to show that considerable spinal irritation still prevails.

On considering the various consequences of injuries to the cord, we shall find that whether it be lacerated, or even divided, or compressed either by displaced bone or extravasated blood, or disorganized from severe concussion, there is no material difference in the symptoms which may arise; and it is on this account that a diagnosis immediately after the receipt of the injury is frequently attended with so much obscurity and uncertainty. The seat of injury can, however, in general be easily determined, when the paralysis is marked, by bearing in mind the anatomical distribution of nerves coming off from the different parts of the cord, and associating this knowledge with the muscles which have become paralyzed, and the extent of surface which has lost its sensibility: thus, for example, in injury to the cord above the phrenic nerves, the respiration becomes almost immediately suspended, and speedy death ensues, owing to the nervous communication having been cut off between the medulla oblongata and the muscles of respiration. When, however, the injury is in the lower cervical or upper dorsal region, the phrenic nerves being uninjured, the respiration is performed by the diaphragm alone, the intercostals are paralyzed, and the patient very frequently dies within three or four days; whereas, if the lesion is in the lower dorsal or lumbar regions, the muscles of inspiration are unaffected, but those of expiration are paralyzed; and, in addition to these serious and important symptoms, we have loss of power of motion of all the voluntary muscles supplied by nerves coming off from the cord at and below the seat of injury, very commonly implicating the lower extremities, and occasionally, when the injury is high up, affecting the upper as well, sensation being also, in general, more or less affected to a similar extent. These facts all deserve particular attention as a means of diagnosis and prognosis, the danger of course being greater in proportion as the injury is nearer to the brain. It is seldom, however, that we meet with cases of injury to the spinal cord, especially occurring so high up in the neck, as even slightly to affect the sensation and motion of the upper extremities, and at the same time presenting such unmistakeable symptoms of severe local injury as existed in the case which preceded these remarks, proceeding at last to a favourable termination—a result which was quite unexpected by all who saw him at the commencement; for on considering the height from which he fell, and having noted the marked protuberance of the spinous processes at the seat of injury, with distinct evidence of that crepitation so peculiar to bone, there could be no doubt but that one or more vertebræ had been fractured; and, judging from the complete paraplegia which existed, and the sudden manner in which it came on after the injury had been sustained, there seemed every reason to fear either that laceration of the cord had taken place, or that portions of the fractured vertebræ were at that time making pressure upon it. When admitted into the hospital he was not in that state of collapse in which patients are usually seen after such severe accidents, whilst the respiration, it will be observed, was diaphragmatic. Mr. Key throughout regarded the case as one of fracture, and, notwithstanding the apparent improvement at the commencement, expressed his belief that it would terminate unfavourably from the effects of softening and disorganization of the cord—an event which it seems probable was warded off by the antiphlogistic course of treatment adopted at the commencement, especially the exhibition of mercurials until the system became gently under its influence; whilst, on the other hand, his age was such as to favour any reparative process which might have been required, or to promote the absorption of any blood which might have been effused.

Some difference of opinion, however, exists amongst surgeons respecting the propriety of depletion; and cases undoubtedly do frequently occur in which bleeding, either general or local, would be improper, or even decidedly injurious; but in general, when the age, habit of body, constitutional powers, and condition of the patient, admit of such a step, I should feel inclined to adopt the practice very generally followed by Mr. Key,—that of local depletion,—for the double purpose of relieving congestion in the vessels of the injured part, thus diminishing the tendency to further effusion of blood, also as a means of preventing inflammation of the membranes of the cord, which not unfrequently takes place. The remaining treatment was necessarily that of other mechanical injuries, especially maintaining the injured parts in a state of complete rest; whilst, when the urine assumed that irritating and offensive character so common in these cases, and containing such a large quantity of stringy mucus, great comfort and benefit were unquestionably afforded to the patient by frequently washing out his bladder with tepid water by means of a syringe, the catheter being always introduced twice or thrice daily to draw off the urine.

During recovery it will be observed that the different organs regained their natural functions in the same routine as is usually met with. Sensation first became established; after a time the sphincters slowly resumed their wonted action; the bladder regained its power, and soon after the urine acquired a more healthy character. The respiration became more perfect, the abdomen was less tympanitic, and, last of all, the extremities gradually recovered their power of voluntary motion. It will also be noticed that, in the recovery both of sensation and motion, the right side was considerably in advance of the left, leaving us to infer that those particular segments of the cord furnishing sensation and motion to the left side of the body were more severely implicated than those on the right.

On the third day after admission it may be seen, on referring to the report, that the patient's skin was very hot, though perspiring, but without the cardiac circulation being at all accelerated. This increase of vital temperature, however, cannot be regarded as a good example of those cases occasionally met with, in which a remarkable evolution of animal heat forms a very prominent symptom. A case in which this phenomenon was well marked came into Guy's Hospital, May 28th, 1848.

W. N., æt. 32, had sustained a fracture of the fifth and sixth cervical vertebræ, in consequence of being suddenly and unexpectedly pushed backwards over the body of another man in the horizontal posture, on his hands and knees, behind him (a trick very common amongst school-boys). The patient lived fourteen hours after his admission into the hospital, his trunk, upper and lower extremities, being completely paralysed, whilst sensation was lost over every part of the body except the head, neck, and upper portion of the chest. His respirations were 34, and diaphragmatic; pulse 130 per minute. Some few hours before his death, on a thermometer being applied to the axilla, the temperature was found to be 107½ of Fahrenheit's scale, over the abdomen 105, and between the toes 104. A post-mortem examination revealed fracture of the fifth and sixth cervical vertebræ, causing compression of the cord.

Sir B. Brodie, in his very valuable paper on Injuries to the Spinal Cord, published in the Medico-Chirurg. Trans., vol. xx., after stating that he has seen several cases in which injury to the cord has produced the same effect, relates one in which there was forcible separation of the fifth and sixth cervical vertebræ, with effusion of blood into the theca, and laceration of the lower cervical portion of the cord. The patient survived but twenty-four hours, the respiration being diaphragmatic and very imperfect; and on a thermometer being placed between the scrotum and thigh, the quicksilver rose to 111° Fahrenheit. This somewhat remarkable feature, however, appears to be chiefly dependent on, or, rather, is more frequently associated with, injuries to the cervical portion of the cord; whilst the experiments on animals made by M. Chossat tend to show that division of the upper portion of the cord especially gives rise to that increase of temperature which raises the body so much above the normal standard. Sir B. Brodie corroborates this by stating that he has performed similar experiments with like results.

Cases occasionally occur in which paralysis does not make its appearance until some time after the injury has been sustained; and, indeed, many of those spinal affections which fall under one's notice in the wards of a hospital may be traced to a blow or other injury, though perhaps received at some remote period. Sir B. Brodie relates an instance where a gentleman was thrown from his horse and received a severe blow on his back. Five weeks after, the lower extremities became paralysed, but after the lapse of fifteen or sixteen weeks he began to recover the use of them, whilst a year after he could walk with the assistance of a stick. A case is also related by Morgagni, of a young man who was wounded in the neck by a dagger, and immediately became paralysed in all parts below the injury. Six weeks after he began to regain the use of his muscles, and could walk slowly and cautiously at the end of four months.

Suspected Injury to Third or Fourth Cervical Vertebra—Paralysis and Partial Anæsthesia of the Right Upper Extremity—Perfect Recovery in about six weeks.

James George, æt. 43, was admitted into Guy's Hospital, under the late Mr. Key's care, May 17th, 1849. States that he is a married man, of temperate habits; occupation, a labourer. Has enjoyed general good health; but about two years since had his right clavicle dislocated upwards at the acromial extremity; from this, however, he soon recovered, and was enabled to resume his work as well as ever. On the night of May 17, he was occupied in driving a horse and cart, and on turning a corner at a brisk trot, his cart came into violent collision with another, by the force of which he was hurled into the road, falling on his forehead and face, his neck, he says, being turned round at the time: he has no recollection after this, and remained insensible for four hours. On admission: he is a robust man, of middle stature, and well proportioned; the surface of the face is slightly grazed, with swelling and extensive ecchymosis of the integuments around the right orbit; the right side of the neck is considerably swollen, and very painful on pressure; he complains of a sense of numbness in the course of the spine, also in all the extremities, with the exception of the right arm, in which the power of voluntary motion is entirely lost, imperfect sensation, however, still remains, whilst there is morbidly increased sensibility of the skin, over the pectoralis major muscle, extending even below the nipple, also over the sternal, clavicular, and acromial regions, as well as the superior part of the scapula, and lower part of the neck,—in fact, over all the integuments supplied by the descending cutaneous branches of the cervical plexus of nerves; indeed, the sensibility was so great over these parts, that he could scarcely suffer the skin to be touched. General temperature of the body increased; complains also of intense pain, and a sense of heat across the forehead. Pulse 108, and rather full; feels very thirsty; tongue dry and furred.

Mr. Key, after a careful examination, stated his belief that there was no direct lesion of the spinal cord, but thought the injury was chiefly confined to the cervical nerves as they escaped from the foramina, and judging from the character of the symptoms, the third cervical nerve seemed more especially implicated. He ordered Cucurbitulæ Cruentæ Nuchæ ad ℥xij.; Hydrargyrum c. Cretâ, gr. iij. ter die. Cold Evaporating Lotion to the forehead.

18th.—He found relief from the cupping; has passed a good night, and does not suffer from so much pain in his head. The sensation of numbness still continues in the extremities, though somewhat diminished, and he now complains of pain during deglutition. No urine having been voided since admission, it was drawn off by means of catheter. His pulse is diminished to 90, and less full; tongue continues dry and brown. Bowels constipated. Ordered Ol. Ricini, ℥j. statim.

19th.—Has passed a good night; suffers from slight pains about the head and neck, but altogether seems improved, as he could now, for the first time since the accident, state when his fingers were touched on the paralyzed side. Pulse 60, and natural; surface of body cool. He still keeps on his back in bed, but feels most comfortable when the head is raised and well supported by pillows. Has passed his urine naturally. To continue the Hyd. c. Cretâ.

20th.—The increased sensibility of the skin over the pectoral region still continues, so that he cannot bear the slightest pressure, whilst he also feels a tingling sensation in the paralyzed arm and fingers. There is less ecchymosis about the forehead, and he appears very comfortable, being quite free from constitutional symptoms, as the tongue is moist and nearly clean.

22d.—Sensation is quite restored on the paralyzed side, whilst he can also move the fingers and raise the hand a little. Pulse 84, soft and regular; appetite improving. Excretions natural. The gums are now slightly affected by the mercury, which was ordered to be omitted.

24th.—Is progressing favourably, every day acquiring more power over the voluntary movements of the limb, as he can move his fingers and wrist, and also raise the forearm from the pillow. Increased sensibility still remains over the pectoral region.

26th.—Is doing well, feels comfortable, and is free from pain, except when touched.

30th.—This morning he awoke with severe headache, and suffering from shooting pains about the vertex and occiput. The morbid sensibility over the pectoral region has been gradually diminishing for the last four days, and has now regained its natural standard. There is no evidence of any constitutional disturbance; the tongue is slightly furred, but moist. Pulse 72, soft and regular. Bowels opened.

June 1st.—He feels very low, but does not suffer so much pain in his head. He has regained sufficient voluntary power to enable him to raise the forearm, and move the fingers with more freedom, and frequently experiences a sense of tingling in the arm and hand. Sensation is quite natural over every part.

12th.—Can now raise his arm and elbow off the bed, and grasp slightly with his right hand. The swelling in the side of the neck having entirely disappeared, Mr. Key again examined the part: the patient's chief complaint was of severe pain on pressure being made over the transverse process of third or fourth cervical vertebra, but there was no evidence of its having been fractured.

16th.—Complains of pain in the side of his neck, for which a blister was applied. Can now lift his arm without much inconvenience.

20th.—The blister has afforded him considerable relief, stiffness about the neck alone remains on attempting to turn his head round. General health considerably improved.

On the 25th, as he felt quite well, and only suffered from pain on attempting to turn his head quickly, he was allowed to leave the hospital.

On reviewing the symptoms in this case, there are several features well worthy of notice, especially the paralysis of one upper extremity, without the other being at all implicated. This partial affection, though occasionally met with, yet may be considered rather as the exception than the rule, inasmuch as paralysis following injuries to the cord but too frequently depends on laceration, or division, or compression of the substance, generally affecting both sides of the body, though perhaps one more severely than the other.

The diagnosis was at first involved in great obscurity, for a similar state of things might have been produced either by concussion, or by injury inflicted upon a small portion of the chord, or by pressure upon the nerves, either at their origin, or in their course through their respective foramina.

Indeed, the extent of paralysis was much in accordance with that produced by concussion, which, though often complete, yet is very frequently partial, such as one limb being paralysed and the other not. Mr. Key, however, suggested the possibility of a fractured transverse process of the vertebra giving rise to the mischief, and made a very careful examination of the part; but as no direct evidence could be found to indicate that such really was the case, gave his opinion that the paralysis in all probability depended on pressure from extravasated blood upon the nerves, as they escaped through their different foramina; and, indeed, judging from the progress and termination of the case, the gradual though speedy manner in which natural sensation and the power of voluntary motion were restored, as well as the marked benefit which ensued when the patient became under the influence of mercury, it seems fair and reasonable to infer that such was the case, whilst one very strong argument in favour of the opinion also advanced by Mr. Key,—that the cord itself had not sustained any direct lesion,—was that the respiratory movements were scarcely, if at all, interfered with, whereas such an interference would naturally have been expected if lesion had existed so high up in the neck. In cases of concussion and injuries to the cord, the same variety exists with respect to the affection of sensation as with that of voluntary motion; in general, however, sensation is more or less imperfect, and not unfrequently lost, but an acutely morbid sensibility of a portion of integument deriving its nervous supply from a particular source, is a feature occasionally, though not commonly, met with. Mr. Hilton has stated that in those cases in which it occurs, on bearing in mind the anatomy of the part, the skin with augmented sensibility will in general, if not always, be found to derive its nervous supply from the cord, immediately above the seat of injury; thus in the present instance the greatest injury was evidently inflicted on the cervical nerves, forming the upper portion of the brachial plexus, as evidenced by the paralysis of the right upper extremity, whilst the increased sensibility was over a portion of integument deriving its nervous supply chiefly from the third cervical, so that it would seem to depend on inflammation or irritation of the roots of the nerves, immediately above the spinal lesion, this morbid condition doubtless originating at, and extending upwards from the seat of injury.

The treatment, it will be observed, was precisely similar to that adopted in the preceding case. Local depletion was resorted to at the commencement; the bowels were kept open by purgatives, when required; the urine required to be drawn off by catheter, but afterwards passed naturally. Mercury was given, in the form of Hyd. c. Cretâ, with great benefit; for as soon as the system came under its influence natural sensation was speedily restored, and the muscles of the arm, previously paralyzed, gradually regained their power of voluntary motion.

HÔPITAL BEAUJON, PARIS.

Case of Polypus of the Nasal Fossæ. Under the care of M. HUGUIER.

THE treatment of certain fibrous or sarcomatous polypi of the nasal fossæ constitutes a difficult problem, and often exposes the surgeon to fatal failure, after all his efforts. These growths are sometimes met with of so long standing, and of so large size that in the progress of their development they have invaded neighbouring cavities,—*e. g.*, the frontal and maxillary sinuses, the pharynx, the orbital and zygomatic fossæ, displacing organs and changing their relations, after having consumed the bony plates by which they are bounded and protected in a normal state: their action may be compared to the gentle but long-continued action of a wedge. The displacement and detatchment of the several bones of the face imparts thereto a repulsive aspect of deformity.

The following case illustrates all these features:—

A youth, fifteen years of age, small of stature, feeble, pale, and of an unprepossessing aspect, his face being hideously deformed by a nasal polypus, which dated about ten years, and was attributed to a fall on his nose from a tree.

The condition on admission into the Hospital was as follows:—

The centre of the face was occupied by a red, soft, irregular tumor, ulcerated at some points, and bleeding readily on the slightest pressure or friction; the tumor was strangulated by the anterior nasal orifice. It originated apparently in the right nasal fossa, since the right side of the face was somewhat larger than the rest, and the septum was pushed over to the left side. As the consequences of this distension, the nasal bones were separated to a distance from each other, as well as from their frontal articulation. The considerable distension of the cheek was owing to that of the maxillary sinsus, the outer osseous wall of which, through the integuments, felt thin, compressible, and parchment-like. Both eyes projected, the right much more so than the left. The ascending process of the maxillary bone, the os unguis, and the os planum, were turned outwards. This displacement, and probably also the elevation of the inferior orbitar plate, accounted for the degree of exophthalmia which was present. On looking into the patient's mouth, the velum palati was seen depressed upon the tongue, which it impeded in its movements. The disunion of the sutures of the palatine and maxillary bones along the middle line was apparent. The dental arch was extended, the incisor teeth protruded forward. The forefinger, passed along the roof of the mouth, detected a portion of the tumor in the pharynx, and it seemed to be, to a small extent, adherent to the velum palati. The several bones of the face were thin, moveable, and imparted a crepitant sound when compressed.

It is unnecessary to dwell upon the impediment offered to the functions of phonation, deglutition, and respiration, in a case which may be considered as serious as any one of the kind on record; and which presented a question of great difficulty in determining what should be done by the surgeon. Should he attempt its removal? or, should he leave the patient to his fate? Polypi have been known to have become spontaneously detached. But this fortunate event has occurred under very different pathological circumstances to what were here presented. There was in this case no other probable termination, if left to itself, than a lingering and painful death.

In prospect of this sad alternative it remained only to attempt its removal. It is true the records of science furnish many unsuccessful instances of attempts to remove polypi of so large a size, and of such extensive and deep attachments; but as it was barely possible that the same sources of danger might not exist here as in others, the surgeon was not justified in abandoning his patient, more especially as successful cases have been related by Petit and Dupuytren, and more recently by Roux, Nelaton, and Robert. The patient here would inevitably die, if not relieved; M. Huguier felt it to be his duty to give him the benefit of the doubt. Weighing all these considerations, with the dangers and difficulties of the operation, M. Huguier came to the determination to attempt to save the life of his fellow creature.

On the 23d November, M. Huguier proceeded to operate in the following manner:—The patient lying on his back, his head resting on a firm cushion: the first incision divided the soft parts, from the malar apophysis, to the edge of the upper lip, near the nostril. Hæmorrhage from the facial artery and other vessels required several ligatures. Notwithstanding the rapidity with which the divided vessels were tied, syncope ensued, and for several minutes caused a suspension of the operation. The ordinary measures were adopted to restore the heart's action, and after some time this state, which had excited great alarm, was terminated by the patient's vomiting a quantity of black and coagulated blood that he had swallowed. After having administered a little wine, and assured himself that all the vessels were secured, M. Huguier made a second incision from the naso-frontal process along the middle line, to join the termination of the former. A triangular flap was thus formed, and dissected back, exposing the projecting tumor. In order more completely to expose it, M. Huguier removed the ascending process of the maxillary bone, and the outer wall of the sinus, when it was seen that the latter formed a common cavity with the nasal fossæ filled by the polypus. On taking hold of the latter it was found to be firmly adherent, although it was not possible then to ascertain its exact attachments. Its most accessible portions were dissected away with a bistoury and scissors, and a mass as large as a fist was removed. Very little hæmorrhage followed the division of the stem. Several smaller portions were dissected away, but it was deemed advisable to leave untouched a considerable growth, which passed beyond the nasal fossæ into the pharynx. The vast excavation thus exposed was filled with small sponges soaked in vinegar and water. Three sutures brought together the edge of the first incision: those of the second were left open, with a view to an ulterior attempt to remove the remainder of the tumor.

For three days the patient went on favourably. The sponges were removed a small piece at a time.

On the 26th, the fourth day, M. Huguier excised another portion about the size of a pigeon's egg. Hæmorrhage ensued, requiring the use of the actual cautery.

On the 27th.—The surface of the wound presented a greyish colour, and emitted an offensive gangrenous odour, with discharge of thin sanious pus. The respiration was still much impeded. The posterior nares were filled with the growth, the connections of which could not yet be determined. The surface of the wound was dressed with cerate on lint, the base of the excavation was filled with charpie. The suppuration was profuse.

28th.—Two more portions were removed. In order to control any hæmorrhage that might occur, M. Huguier passed a sound, furnished with a thread, between the polypus and the floor of the nostril: the thread was then connected with a plug, by which pressure could be exerted through the mouth through the bleeding vessel: this contrivance, however, was not needed. Pressure on the surface sufficed to arrest the bleeding.

During the rest of this day the patient was very feeble and depressed; respiration became much more embarrassed. Towards midday the feebleness increased. At four o'clock in the afternoon he died.

In a future number the result of the post-mortem examination, with some practical observations by M. Huguier, will be given.

EPIDEMIOLOGICAL SOCIETY.

The next ordinary meeting of this Society will be held at the House of the Royal Medical and Chirurgical Society, 53, Berners Street, on Monday, the 6th of January, 1851, at half-past 8 P.M. precisely.

A paper on the Infectious Nature of Cholera will be read by Dr. Bryson.

Medical Intelligence.

EAGLAND'S TRUSSES FOR THE RELIEF OF HERNIA.—REMARKS ON TRUSSES.

PATTERNS of all kinds of improved trusses have at various times reached us, and we have been repeatedly solicited to give an *à priori* opinion of their value, either from the theory of their construction, or from the casual inspection of a patient who has worn one. Notwithstanding the numerous improved trusses which have been advertised of late years, including the soft pad, the hard pad, the sand pad, the moc-main, the wire truss, and others, we think that most practitioners still consider it a matter of great difficulty to make a selection. The remarks which we are about to make will, we hope, remove this difficulty.

In our journal for Feb. 1, 1850, we inserted a communication from Mr. T. P. Teale, surgeon to the Leeds Infirmary.* A truss is there described as manufactured by Mr. Eagland, of Bond Street, Leeds; and engravings are also given illustrating the principle of its construction, and its mode of application to inguinal and femoral herniæ. Specimens were at the time sent to us for inspection; but, conformably to the rule we have uniformly adopted, we did not give any recommendatory notice of these trusses, either from the inspection of them, or from the reports of others. Their alleged superiority over other hernial bandages, therefore, rested entirely on the statements contained in Mr. Teale's paper.

One of the trusses was ordered and applied to a patient in a case of femoral hernia, to which well-constructed trusses of London make had been hitherto applied, but always with the great inconvenience of unequal pressure and the liability to shift, notwithstanding the use of a thigh-strap. In this case *Eagland's truss* has been worn continuously for *eleven months* without a thigh-strap. The pad has perfectly maintained its position in all the movements of the body, and the spiral spring connected with it has allowed of as much freedom of motion as is compatible with the wearing of any hernial bandage whatever. During a like period, before this truss was worn, a change of the ordinary truss, or some alteration of the pad, was required at least once in three months. The result of the long wearing of Eagland's truss in the case of this patient has been most successful and satisfactory; and we consider it a duty, therefore, to state the fact for the information of our readers.

The construction and mode of applying the truss are so well described by Mr. Teale in the paper before alluded to, that only a few remarks are required in this place.

The pad is a light hollow shell of ivory, adapted in shape to the part on which the pressure is to be applied—a plan eminently required in the femoral space, to which neither oval, round, or flat pads can be so adapted as to preserve their position without a thigh-strap, or some other encumbrance, such as increased strength in the spring, thus causing undue pressure. The spiral spring prevents the pad from moving with the girdle, and thus allows great freedom of motion without risk. We have here the art of the mechanic united to the anatomical science of the surgeon; and we feel bound to state that Mr. Teale has not in any respect overrated the value of this truss.

Our readers are no doubt aware that there is a strong *esprit de corps* among surgical mechanicians. Each metropolitan maker has his favourite truss, with duly endorsed testimonials, &c.; all others are ignored, and we doubt whether a provincial maker has the smallest chance of insinuating a good article into metropolitan practice, owing to the trade combination against him. We do not know how the matter stands with Mr. Eagland, of Leeds, but we are informed that there is no one in London who makes his trusses, or who will make them, except probably on the disinterested principle of absorbing all the profit. We have made inquiries of one or two makers, and they have said they "know nothing about it"—or "it is only Coles's patent truss," or it is an article that "a London surgeon would never think of using," &c. &c. &c. Our readers must be fully aware how a good article may be thus kept from their knowledge—literally burked—by this sort of pooh-poohing. How many medical men apply to a maker without having any precise idea of the kind of truss most worthy of selection, and are therefore easily led to select the favourite of the particular shop!

It is with regret we learn that these trusses cannot be procured in London, but only from the maker, Mr. Thomas Eagland, of Bond Street, Leeds. We know nothing of Mr. Eagland, excepting through the paper published by Mr. Teale in this journal; but we have great pleasure in giving, without any knowledge on his part, this strong recommendation of his trusses from our actual observation of their efficiency. We have no doubt that a more extended trial by the profession will confirm this opinion of their value.

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* See vol. xlv. p. 194.

REGISTRATION OF CAUSES OF DEATH IN THE METROPOLIS.

It appears that out of 1166 deaths registered in the week ending December 21st, the causes of death were assigned as follows:—

The causes of death were certified by written statements of medical attendants in .	1044 cases.
Coroners' inquests on others were held in . . .	91 „
Medical attendance was not obtained (nor inquests held) in	9 „
Causes of death were not certified (or only by local statement of attendant or informant) in . . .	22 „
Total . . .	1166

Hence it appears that the causes of death, either certified by the medical profession, or which became the subjects of investigation before Coroners' juries, form 97 per cent. of the total number.

THE CONOLLY TESTIMONIAL FUND.

We are glad to perceive that the subscriptions to this fund already exceed 535 guineas. We shall merely remind our readers of two of the resolutions passed at the meeting held in August last—

"That, in the opinion of the Committee, the most appropriate testimonial will be a portrait of Dr. Conolly (for which he is to be requested to sit), to be presented to his family, and an engraving of the same, to be presented to the subscribers.

"That the individual subscriptions shall be limited to five guineas; that subscribers of two guineas and upwards shall receive a proof impression of the engraving, and subscribers of one guinea, a print."

N.B.—It is also proposed to present Dr. Conolly with a piece of plate, should the funds permit, after defraying the expenses of the painting and engraving.

MEDICAL FEES AT SAN FRANCISCO, CALIFORNIA.

The San Francisco Medical Society has issued the following tariff of fees, by which its members are bound to make the undermentioned charges. The tariff is very long. We select only a few of the items:—

For each visit as a physician, 16 dollars.
For a visit at night, 30 to 50 dollars.
For a visit as consulting physician, 100 dollars.
For an opinion involving a question of law, 150 dollars.
For a certificate of the state of health of an individual, 50 dollars.
For vaccination, 32 dollars.
For a case of ordinary labour, 150 dollars.
For the application of the forceps, 3000 dollars.
For the operation of turning, 500 dollars.
For the operation of lithotomy, 500 to 1000 dollars.
For the introduction of the catheter, 100 to 200 dollars.
For a post-mortem examination in legal cases, 200 dollars.
For ditto in private cases, 100 dollars.
For the extirpation of the tonsils, 500 dollars.
For examination per anum, 50 to 100 dollars.
Amputation of a leg or arm, 300 dollars.
Operation for strangulated hernia, 500 to 1000 dollars.

The accounts of physicians to be deemed due and payable immediately after their services are no longer required.—*British American Journal.*

⁂ The dollar is worth four shillings and threepence, but its real value can only be estimated by its purchaseable power. As the price of a quartern loaf or a pair of boots is proportionally high in this golden district, nothing is gained by high fees.

Selections from Journals.

ON A SIMPLE APPARATUS FOR THE INHALATION OF CHLOROFORM. BY CHRISTOPHER FLEMING, M.D., F.R.C.S., SURGEON TO THE NETTERVILLE CHARITABLE INSTITUTION, &c. &c.

(*Communicated by the Author.*)

The means adopted for the inhalation of chloroform or other anæsthetic agent should be the simplest possible, to the exclusion of any contrivance which may require the cooperation of the patient, or cause the slightest delay in its removal. Hence the objection to many, if not to every apparatus in use for this purpose. The handkerchief, the napkin, and the conical sponge, have their advocates, and amongst them the warmest supporters of artificial anæsthesia are to be found. I cannot, however, think otherwise than that such careless and unscientific modes of exhibition as the latter are very objectionable. The most serious ill-consequences have arisen from such, and more fatal results are recorded from that of the handkerchief or napkin than from any other, at least in surgical practice.* The proceeding, moreover, is reckless and unmeasured, and tacitly sanctions a non-medical and unprofessional application of a most potent drug, which cannot be too loudly condemned, as it attaches to it the semblance of a dangerously innocent agency, and encourages, by its illegitimate use, a trifling with most important vital functions.

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* Not long since a case occurred in one of the London hospitals where the inhalation of chloroform by means of an apparatus having failed, a napkin or handkerchief, charged with the agent, was presented, and death was the result.

Some provision is therefore requisite to stamp upon it that caution so indispensable as to the amount of dose, and as a protection against the supervention of any untoward symptom. That delineated in the accompanying woodcuts I have been in the habit of using both in hospital and in private practice, more or less modified to its present form, for nearly two years, and it has, in the majority of instances, answered all purposes extremely well. It is so simple that it hardly merits the name of apparatus, and its use can be suspended or renewed at the will of the practitioner with facility, and without the slightest disturbance to the patient, who may be perfectly passive during its application. It consists of a flattened capsule of glass, of oval shape, from about an inch and a half to two inches in its long diameter, and an inch to an inch and a half in its transverse. There is an overlapping lip or brim on the upper surface to protect a thin film of sponge, which I call the "chloroform sponge;" and to the opposite surface is attached a common flat stopper bottle, containing ammonia, aromatic vinegar, or some such class of stimulant. Between the capsule and the bottle is a narrowed neck, around which is fixed a thin, porous sponge, so scooped and shaped that it can enclose the mouth and nose of the patient. If the surgeon is determined to be always provided with the stimulant alluded to, there is no necessity for the addition of the stopper bottle; but I have so repeatedly witnessed ill-effects from the neglect of this provision, that I should recommend it in all instances.

FIG. 1.

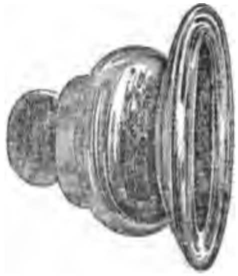


Fig. 1 gives a good lateral view of the long diameter of the glass capsule and stopper bottle attached to it.

FIG. 2.

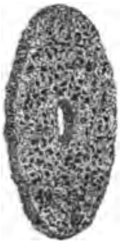
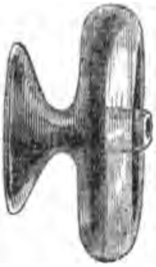
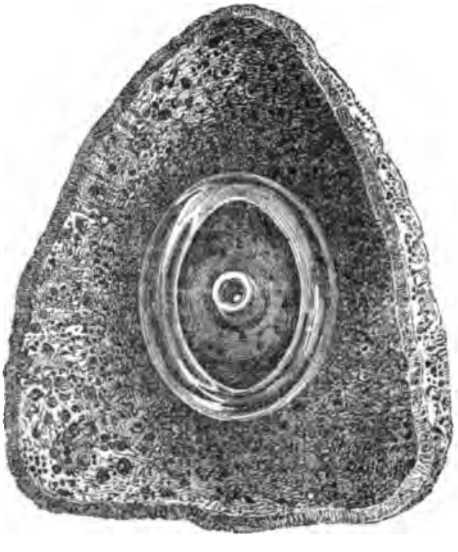


FIG. 3.



Figs. 2 and 3 give good representations of the tubular capsule and its sponge.

FIG. 4.



I have occasionally made an alteration in the capsule, which appears to me to be not unimportant. A tube is passed through it, which terminates in a point on the upper surface, above the level of its rim or border, and in a bell or trumpet shape on the under, the chloroform sponge having a perforation to admit it. There is an advantage in this plan, as by alternate pressure of the finger on the trumpet end, fresh atmospheric air can be admitted at will. The external sponge is fitted on in the same manner as in the former, and it will be well to manage that in both it should be about two inches and a half to three inches deep, so as not to allow the chloroform sponge to be too near the nose and mouth, for reasons unnecessary to particularize.

Previous to use, I damp both sponges with warm or cold water, according to the season of the year, and then I pour as much chloroform on the thin film of sponge in the capsule as it will retain. The quantity seldom exceeds from half a drachm to a drachm, as it floats on the surface of the sponge, and it can be renewed as often as may be considered requisite, until the object of the surgeon is accomplished. During the progress of inhalation, the apparatus may be occasionally removed, as well to watch the countenance of the patient as to reverse the chloroform sponge, or otherwise to disturb it, as I have observed that the evaporation of the agent is somewhat suspended, perhaps by the moistened raspired air. When anæsthesia is produced, the apparatus can be removed, and the large external sponge folded over the capsule until reapplication is requisite.

In Steevens' Hospital the above mode of exhibiting chloroform has been tested on a very extensive scale. It has been also successfully adopted in many other hospitals in this city, and in private practice I have repeatedly used it with very satisfactory results.

CASE OF WOUND OF THE LEFT VENTRICLE OF THE HEART—PATIENT SURVIVED FIVE DAYS ; WITH REMARKS. BY JOHN W. H. TRUGIEN, M.D., OF PORTSMOUTH, VA.

ON the night of March 18th, 1850, at about eight and a half o'clock, I was hastily summoned to visit a stout young negro man, æt. 21, who a few minutes previously, in a personal rencontre with another negro, had been stabbed in the chest. I found the man lying on the floor in a state of the most profound collapse. His body was as cold as a block of marble, and covered with profuse, cold, clammy sweat ; nor could the nicest touch of the finger, or the ear applied over the region of the heart, detect either radial or cardiac pulsation. The only indication of remaining animation was the occasional utterance of groans, and the application of the hands to the pit of the stomach, as if to relieve pain in that situation. On stripping open the shirt, a wound of half an inch in size was discovered in the left precordial region, equidistant from the nipple and left edge of the sternum, and just over the costo-sternal cartilage of the fourth rib. There was little or no hæmorrhage from the wound. On introducing the probe, it could be carried as far as the costal cartilage, but was then turned a little to the right when allowed to pursue its own course. My first impression on seeing the man was that the heart had been wounded, and that the case would terminate fatally. The arrest of the probe, however, and its deflection to the right, caused me to come to an opposite conclusion. The extreme degree of collapse was attributed to other causes than the wound, viz., to the presence of crude indigestible food in the stomach, giving rise to intense pain there, or the impression of a blow or kick thereon, as suggested by my friend Dr. J. N. Schoolfield, who the next day visited the patient with me. The circumstance of his having vomited during the night a large quantity of crude ingesta seemed to confirm this opinion. The result, however, will show that it was erroneous, and that the first impression was correct. Notwithstanding the efforts made to induce reaction, he continued in the state above described for five or six hours. At last, however, the forces of the system rallied, and by the following morning a moderate and equable reaction had taken place. No complaint was made of the wound, and there were no symptoms present to give rise to the supposition that the cavity of the chest or the heart had been penetrated. Respiration was normal, and the patient able to take a full inspiration without pain. There was, however, considerable tenderness and pain on pressure over the epigastrium, but which soon yielded to the application of a vesicant and the internal use of blue mass, opium, and ipecac. The strictest maintenance of the horizontal position, together with the observance of perfect quietude, were enjoined. This, together with the use of slop diet, constituted the treatment of the case. The wound was received on Monday night, and the patient continued to improve until Saturday, warranting the prognosis which was given of a favourable termination. On the last named day, however, in positive disobedience of orders, he went out and used other improper exertions At eight o'clock at night I was again sent for, and arrived only in time to see him die, which event took place in about five minutes after I reached him

He had been sitting up a few minutes previously, and conversing cheerfully, when he suddenly complained of feeling very badly, sunk down from his chair, and expired.

Autopsy, sixteen hours after death, by Dr. J. N. Schoolfield and the writer.—The wound in the external integuments had completely healed. On removing the sternum, together with the costal cartilages, a large quantity of serous fluid escaped from the chest. A wound of two-thirds of an inch in extent was found traversing in an oblique direction, and completely perforating the fourth costo-sternal cartilage; passing thence through the pericardium, it was traced into the substance *of the right ventricle*, a line or two to the right of the septum-ventriculosum. Its farther course was traced from right to left *through the wall of the right ventricle, without, however, penetrating its cavity;* thence through the septum into the *wall of the left ventricle, and through this into its cavity.* Through the opening thus made the blood had escaped into the pericardium, until it put a stop to the movements of the heart. About a pint and a half of blood, partly fluid and partly coagulated, was taken therefrom. The wound through the pericardium had completely cicatrised, as well also as that of the heart for two-thirds of its extent. The preparation now in my possession shows this very plainly. A circle of inflammation about the size of a quarter dollar is there seen to surround the wound of the heart.

Remarks.—Are wounds of the heart *necessarily* fatal? Dr. Dorsey says, "there is reason to believe that the heart has often been wounded without fatal consequences." And Baron Dupuytren gives it as his opinion that wounds of this organ are not necessarily fatal. Dr. Alfred Taylor, in his Medical Jurisprudence, says, "until some clear instances of recovery from penetrating wounds of the cavities are reported, the majority of practitioners will continue to look upon them as *necessarily*, although not immediately fatal." But at least *one* case of recovery *is* on record (see London Med. Gaz., vol. xvii. p. 82); and the case just reported, though terminating in death, has nothing about it to lead to the conclusion that recovery was impossible. On the contrary, the complete cicatrization of the wound through the pericardium, and the almost complete closure of the wound of the ventricle, render it highly probable that the patient would have got well but for his imprudent exertions.

In conclusion, we think this must be regarded as a very interesting case, as it illustrates that wounds of the heart are not instantaneously fatal, and, though itself terminating unfavourably, that they are not *necessarily* so. It shows, also, that wounds of this organ may cicatrise under circumstances favourable to such a process; and in a medico-legal point of view is highly interesting. As suggested by a highly-esteemed medical friend, an important therapeutical lesson may also be deduced from this case, viz., the necessity of the most perfect and absolute rest, and the observance of the horizontal position for a longer time than is usual in the treatment of such cases.—***American Journal of Medical Sciences***, 1850.

FATTY TUMOR ON THE ANTERIOR WALL OF THE PHARYNX—NOVEL OPERATIVE PROCEEDING—CURE.

The patient, a carpenter, aged 39 years, was of a vigorous constitution, and good general health. For about a year past he had experienced difficulty of breathing during inspiration, expiration and deglutition being perfectly free. The patient expressed himself as if a kind of valve closed the air-passages in the effort at inspiration. This difficulty increased, and when seen by M. Langier at the Hôpital de la Pitié, the inspiration was embarrassed and noisy, expiration and deglutition easy, the voice altered and gruff.

By firmly depressing the tongue, there was seen behind the epiglottis, and during the elevation of the larynx, a tumor of the size of a small nut, globular, smooth, and of a pale red colour. On seizing the tumor with a pair of forceps, it could be raised and its attachment exposed. It adhered to the mucous membrane on the posterior aspect of the arytenoid and cricoid cartilages.

The increase of the tumor threatened suffocation, and the patient urgently desired its removal. The operation was performed by M. Langier in the following manner:—The patient being seated, the head slightly inclined backward, the mouth widely opened, the tongue was strongly depressed, and the operator seized the polypus with a pair of forceps, which were immediately held by an assistant. The patient now breathed with facility. A Deschamps' needle carrying a double thread was then passed through the tumor from left to right. The two ends of the thread were withdrawn by the mouth, while a gum elastic sound was passed down the right nostril, and its extremity brought into the mouth; the two ends of the thread were then attached to the orifices of the sound and brought through the nostril. By this means the tumor was raised perpendicularly, and completely exposed, so that it was easy to remove it by a pair of curved scissors without injury to the epiglottis.

The tumor was of the size of the end of the thumb, and, when divided and examined microscopically, was seen to consist of a cellular and of a fatty structure.

The patient rapidly recovered without the slightest ill effects from the operation. —*L'Union Médicale.* x

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OBITUARY.

At Brompton, on the 21st inst., William Henry Brownson, Esq., M.D., late surgeon of H. M. 2d W. I. Regiment, aged 37.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

On Excision of the Enlarged Tonsil, and its Consequences, in cases of Deafness. By William Harvey, M.R.C.S. Surgeon to the Dispensary for Diseases of the Ear.

Additional Observations on the Nitrate of Silver, with full Directions for its use as a Therapeutic Agent. By John Higginbottom, F.R.C.S. &c.

The Anatomist's Vade-Mecum. A System of Human Anatomy. By Erasmus Wilson, F.R.S. 5th Edition.

The American Journal of Insanity. Vol. 7. Nos. 1 and 2; July and October 1850.

Comptes Rendus. Nos. 23 and 24; 2d and 9th December.

Remarks on the Operation of the Perineal Section for the Cure of Stricture of the Urethra, &c. By F. G. William Mullar, M.D. &c. Edinburgh.

On Vaccination and Revaccination. By Alexander Knox, M.D. Edinburgh.

The Edinburgh Monthly Journal of Medical Science. January 1851.

The London Journal of Medicine. January 1851.

The Pharmaceutical Journal. January 1851.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	30·19
,, ,, ,, Thermometer[a]	38·3
Self-registering do.[b] .... Max. 38·6 Min.	33·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·06. — Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 1°.5 *below* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Dec. 28.

Births.		Deaths.	
Males....	658	Males....	577
Females..	712	Females..	619
	1370		1196

Causes of Death.

All Causes	1196
Specified Causes	1164
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	232
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	42
2. Brain, Spinal Marrow, Nerves, and Senses	98
4. Heart and Bloodvessels..........	56
5. Lungs and organs of Respiration	264
6. Stomach, Liver, &c.	64
7. Diseases of the Kidneys, &c.	14
8. Childbirth, Diseases of Uterus, &c.	10
9. Rheumatism, Diseases of Bones, Joints, &c.	13
10. Skin..........................	2
11. Premature Birth	32
12. Old Age	45
13. Sudden Deaths.................	25
14. Violence, Privation, Cold, &c....	70

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	30	Convulsions........	26
Measles............	20	Bronchitis	120
Scarlatina	22	Pneumonia	90
Hooping-cough	61	Phthisis	124
Diarrhœa..........	31	Lungs	16
Cholera............	0	Teething	12
Typhus............	32	Stomach	6
Dropsy	11	Liver..............	2
Hydrocephalus	29		
Apoplexy	23	Childbirth	6
Paralysis	13	Uterus	3

Remarks.—The total number of deaths was 41 *above* the average mortality of the 52d week of *ten* previous years.

NOTICES TO CORRESPONDENTS.

Foreign Exchanges.—We have to remind the Editors of the *Bulletin de Thérapeutique* and the *Oesterreichische Medicinische Wochenschrift* that we have received no copies of their publications for many months, and until something like a fair reciprocity is established, by the receipt of the back numbers of their respective journals, we must decline sending the "Medical Gazette." We also take this opportunity of reminding the Editor of the *New York Medical Gazette* that the last number of his journal which reached us, is dated October 26, 1850.

The operation for Cataract on a Bear, mentioned at page 1085 of our number for December 20th, was performed by Mr. White Cooper, and not by Mr. Guthrie, as was there stated.

Mr. F. Bennett's letter on the treatment of Scarlet Fever shall be inserted.

The King's College Hospital Report is unavoidably postponed until the following number.

Mr. C. S. Bate. — The engravings are not yet ready, hence the paper must stand over for a week.

Westmonasteriensis.—We are much obliged by the letter. We shall probably find room for it next week.

Dr. H. Fearnside's contribution on Pericarditis has been received.

Lectures.

NOTES OF
CLINICAL LECTURES,

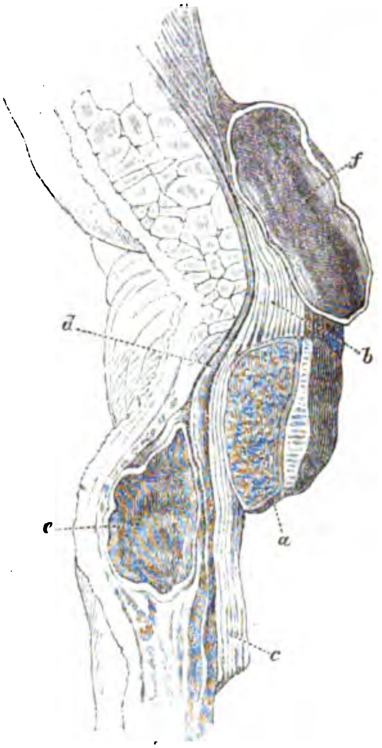
(Delivered at Guy's Hospital, Dec. 1850.)

By John Hilton, F.R.S.
Surgeon to the Hospital.

In commencing my portion of the Course of Clinical Instruction, I shall refrain from entering very fully into general details of the different diseases which may come under our notice, all of which have been, or will be, fully treated of in the Lectures on Surgery, but I intend, as much as possible, to confine my remarks to the various cases which present themselves to our observation, to explain the different causes of the symptoms which exist, and the general indications of treatment, as well as to endeavour to elucidate any difficult questions that may arise, whether in reference to their diagnosis or general pathology.

The first case which I have to bring before your notice to-day is that of a disease commonly known by the name of the housemaid's knee; so called from its being frequent amongst females, who, in their occupation of scrubbing, &c., are necessarily kept for a considerable time in a kneeling posture, and thus rendering the part subject to pressure and friction; more strictly speaking, however, the disease is an inflammation of the subcutaneous bursa, situated in the superficial fascia, over the anterior and inferior part of the patella, the exact position of which, and its relation to adjacent parts, is clearly shown in this drawing taken from one of my dissections, now in the Museum of this Hospital: the section is a vertical one, and shows the bursa to be situated in the superficial fascia, between the skin and aponeurosis of the fascia lata, and having no communication whatever with the knee-joint.

You will remember, that although this bursa does not exist at a very early period of life, yet it must be considered normal or natural, from youth to old age, in both sexes, and that all persons are liable to the same disease as that to which your attention is now directed, if the bursa be subjected to undue friction. It is not my intention to enlarge my remarks so as to embrace the whole of the subject, or the class of cases amongst which this one would be grouped, but to confine myself to such observations as appear pertinent to this particular case, or others which may be related in illustration of some point in pathology or practice.



- *a* Vertical section of patella in the median line.
- *b* Tendons of extensor cruris.
- *c* Ligamentum patellæ.
- *d* Fascia lata.
- *e* Subcutaneous bursa.
- *f* Bursa above the patella, and under the extensor tendon.

The preparation is somewhat distorted or corrugated from the action of spirit of wine.

Inflamed and Suppurating Bursa in front of the Patella.

M. R——, æt. 21, a single woman of healthy aspect and robust habit of body, was admitted into the hospital on Dec. 4th, 1850. States she resides at Camberwell, and is occupied as a domestic servant, her work frequently requiring the kneeling posture; up to her present illness she has enjoyed general good health. About three weeks since she caught a severe cold, and a few days after its subsidence she was attacked with rigors, succeeded by intense aching pain in the left knee, followed by heat, redness, and swelling, and attended with much constitutional disturbance. For two days the swelling increased in size, but diminished and almost entirely disappeared after the application of fourteen leeches, conjoined with rest and the internal use of medicines, by which means her other symptoms were also alleviated. Five days ago, however, she was again attacked with shivering, followed by symptoms similar to those in the first attack, with a swelling in the same situation over the patella, which in three days opened of itself and discharged a quantity of pus, since which she has been much relieved, but her knee is still very painful and sensitive to the touch, though discharging freely. Her tongue is coated with white fur. Pulse accelerated, with loss of appetite, and indisposition to sleep. The knee was ordered to be kept quiet by means of a splint applied behind it. From this time she continued to improve; all tenderness and swelling gradually disappeared, and the bursa healed up by granulation. On Dec. 10th, being quite recovered, she was discharged from the hospital.

In persons who are in the habit of kneeling much the bursa becomes enlarged, and it not unfrequently happens as the sequel of a blow, or of inordinate walking exercise, or continued pressure, that the sac becomes inflamed, giving rise to the effusion either of blood or serum, and subsequently of a purulent fluid. The character of the effusion, however, appears to be modified to some extent by the immediate cause, the previous health and constitutional powers of the patient, as well as by the degree of inflammation which has existed, but in general at the commencement the effusion is of a serous character, when keeping the limb as much as possible at rest, and especially avoiding the exciting cause, with the occasional exhibition of a mild purgative, and local applications, are means sufficient to reduce the inflammation and promote the absorption of the fluid effused. Not unfrequently, however, the patient goes on, as in the case related, suffering again and again from similar attacks until suppuration takes place, the swelling increases in size, the temperature of the limb is raised, the skin nevertheless becomes inflamed, and at last the abscess is said to burst. Bursting, however, when applied to the escape of purulent fluid from its containing cavity, is a misapplied term, inasmuch as it tends to convey a wrong impression of what does actually take place: the discharge of the fluid is not an act of violence from the excessive force of the fluid within, but, in consequence of the tension exerted upon the superimposed skin, it becomes inflamed and ulcerates; and in this way the matter is discharged by a process of ulceration rather than by tension; yet no doubt, when the part which is ulcerating becomes excessively attenuated over the confined fluid, it is probable that the immediate cause of the escape of the matter may be the giving way by force of the thin partition, which, up to the instant of escape, had confined the fluid. The indications for treatment in the early stages are to overcome any inflammation which may exist, and to get rid of the fluid which has been effused. These objects may be effected in various ways. Whatever plan of treatment, however, may be adopted, rest is always indispensably necessary; and the most certain method of insuring it, and to have it maintained, is by placing a splint behind the knee, so as to keep the limb extended, thus removing all tension from the bursa. Purgatives should be exhibited, whilst leeches, followed by repeated blisters, are often sufficient for every object. But, when suppuration has become established, I would advise you to adopt a plan in imitation of that which has been so successfully followed by nature in the detailed case,—viz. to make a free opening —a vertical, not a transverse incision— about three-quarters of an inch in length, into the lower part of the bursa, so as to evacuate the contents, and allow it to heal by granulation.

Some surgeons, however, object to incision, and advise that nature's process for the evacuation of the pus should not be interfered with. But may we not, in answer to this, say that the mode of treatment by incision ought to be considered not as an interference with nature's course, but rather as an important aid in anticipation of the long and painful process of ulceration, in a part where the nerves are large and numerous, and the cutis and cuticle very dense and unyielding?

Admitting that the bursa is a natural and normal bursa, important to the free unrestrained movements of the knee, its occlusion by the method of treatment selected by nature in this case, and imitated by surgeons, involves the admission of an imperfection in the treatment, inasmuch as that which ought to be a cavity becomes filled up or obliterated. But I may state to you that, although the bursa is rarely if ever reproduced in its pristine form as a single cyst, with a smooth internal surface, yet, in the course of six or eight months afterwards, three or four or more small cavities are formed, or one large one, intersected by numerous fibrillæ of organized lymph. Such bursæ are as efficient for ordinary purposes, though not so perfect, as the bursa which had been previously destroyed.

The case altogether is one of great simplicity, and I have not brought it before your notice from its presenting any peculiarities in itself, but as being the kind of case very frequently met with in practice.

The next class of cases to which I have to direct your attention are those of ulcers in or near the rectum, more especially, however, about the anal aperture,—affections giving rise to the most distressing and seemingly anomalous symptoms, and which, though frequently occurring in practice, yet, from want of due attention and imperfect investigation, are very often overlooked; and in introducing this subject to your notice, it may, perhaps, be well to give you this advice and recommendation as a caution—that whenever a patient complains of considerable pain in passing his motions, whether accompanied or not by streaks of blood upon the fæces, never allow that patient to escape your notice without making a very circumspect and careful examination of the part which may be painful.

As the sensibility of the ulcer and the character of the accompanying symptoms depends greatly upon the exact situation of the ulcer, I shall divide them into three distinct classes in relation to their position.

1st. Ulcers external to the sphincter ani.

2nd. Ulcers *within the circle formed by the internal sphincter muscle.*

3rd. Ulcers *internal to* the sphincter ani.

And the first case which I will adduce is an example of the first class—viz., ulcers external to the sphincter ani:—

Ulcer external to the Anal Aperture.

T. C——, æt. 22, aged two months, was admtted into Guy's, under Mr. Hilton's care, November 27th: states he is the driver of a stage waggon, has lived temperately, and enjoyed general good health. About two months since he first complained of pain whilst passing his motions, which has continued to increase up to the present time; it was supposed to depend on piles, for which he was treated, but without deriving any benefit.

On admission into the hospital, he still complains of severe pain whilst passing his motions, and for one hour after, as well as continual soreness and uneasiness around the anal aperture, and on examination several small ulcers, irregular in form, were discovered, varying in depth, though mostly superficial, around the verge of the anus. These, on being touched with the finger-nail, caused him pain and soreness, though not to be compared with that acute sensibility which exists when the ulcer is situated in the mucous membrane within the sphincter. He has been the subject of syphilis twice; but there does not appear to be any connection between this and his present disease. He was ordered to keep in bed in the recumbent posture, to take castor oil two or three times a day, so as to keep up a gentle action on the bowels; also to apply an ointment, consisting of Unguentum Opii ʒj. et Unguentum Hydrargyri Fortius, ʒiij. two or three times a day.

Dec. 3rd.—He had found great relief from the application: his bowels were regularly opened, and the motions pass without causing him much pain, whilst the small ulcers show a disposition to heal. From this time he continued to improve up to the 14th, when he felt quite well, all pain and uneasiness having entirely disappeared; the ulcerated fissures had completely healed, and the bowels were moved without causing him any inconvenience.

On reviewing the symptoms in this case, his sufferings, you will remember, were limited to about one hour after the act of defecation had been completed—a period of time unusually short, and of a much less protracted character from that in other cases which I shall have to bring before your notice before we quit the subject. This case also fully indicates the necessity for a careful personal examination, as I am aware that this patient had been under treatment for piles for some time previous to his admission into the hospital, and without any benefit.

The indications for treatment are—

1st. To keep the patient in the recumbent posture, so as to relieve congestion of the hæmorrhoidal veins, through which, you will remember, venous blood is returned to the vena porta, contrary to the laws of gravitation, but which is accomplished by means of valves so arranged and adapted as to support a column of blood of a definite length, and of certain weight. And it is owing to some of these valves having become broken down that the remaining healthy valves are called upon to support a greater column of blood than natural, giving rise to those enlargements and yielding of the veins just above the sound valves which constitute the true venous hæmorrhoids.

The second indication is to keep the bowels open by mild laxatives; and of these the oleaginous appear to me by far the best; for in administering castor oil, which is the medicine I generally employ, it acts on the entire course of the intestinal canal, and at the same time lubricates the hard exterior of the fæcal mass as it passes through the rectum; and, indeed, in all diseases of the rectum you will find in castor oil one of the mildest and best purgatives you can employ.

The painful symptoms in the case I have

read were soon partially relieved by these means, whilst great benefit was unquestionably afforded by the local application, consisting of the Unguentum Opii and Unguentum Hydrargyri Fortius. The opium appears to prove beneficial by diminishing the excitability and irritability of the ulcer; but the modus operandi of mercury as a local application, or in what manner it affects the molecules of the system when given internally, is at present but very imperfectly understood. That the combination is an advantage I have no doubt whatever. The patient suffered most severely during the act of defecation; and this, though very frequent, yet is not always the case, as the pain is often more severe after the act of defecation has been completed. An explanation of the cause of this I shall offer you hereafter.

Very minute fissures, so small as scarcely to be perceptible even on careful examination, yet, when situated on the verge of the anus, may give rise to the most acute pain whilst the stools are passing; and I have known several instances where persons in full business occupation have been quite unable to pursue their avocation in consequence of this source of pain and uneasiness about the rectum, as well as from the mental anxiety and physical depression with which these affections are so commonly associated. One case strikes me very forcibly at the present time; and, as I think an illustration of the subject under consideration will be the more likely to impress it on your memory, I will briefly relate it. A gentleman actively engaged in business in the City was suffering from all the symptoms above alluded to, and had been under treatment for some time without any benefit. The rectum had been examined, but without affording any explanation of the cause of the symptoms. Being satisfied, however, in my own mind that it depended on some minute fissure about the anal aperture, which had hitherto escaped observation, I made a very careful and minute examination of the part; and, on making pressure around the verge of the anus, the patient soon expressed severe pain when I touched a particular spot. To this my attention was now especially directed; and, after manipulating so as to make the skin as tense as possible around the margin of the anus, I at last discovered a very minute fissure, scarcely a line in breadth, in that situation; and, on touching it with my finger-nail the patient instantly suffered the most exquisite pain. This case was treated by touching the fissure with nitrate of silver reduced to a fine point by rubbing it with wet lint; and, after three or four applications, the patient got completely well, and quite free from those harassing and distressing symptoms with which he had so long been troubled. The fissure in this case appeared to have originated in a small follicle which had suppurated and never properly healed. This follicular disease does not always assume the form of an ulcer or fissure; you will not unfrequently meet with it in practice, where the enlarged follicle may be seen in a state of ulceration, the ulcer not being more than a pin's head in size, very sensitive to the touch, and painful during defecation, which may be cured by one or two careful applications of nitrate of silver to the ulcerated points.

TREATMENT OF CHOLERA IN THE WEST INDIES—APPOINTMENT OF MEDICAL OFFICERS OF HEALTH BY GOVERNMENT.

EARL GREY has drawn the attention of the General Board of Health to the prevalence of cholera in the West Indies, and has asked their advice on the application of the West India merchants for additional medical aid for that island. The reply of the Board was that, judging from the reported progress of the epidemic in the towns affected, it would most probably have spent its force there before any assistance could be sent out; and that it would be impracticable to organise here within the time any sufficient medical staff to be of use in the remote districts for the treatment of the disease in the advanced stages at which it would have arrived before any aid could be given. The Board reverted to the declarations made in their official notifications, that the medical experience of Europe had failed to supply any successful treatment in the advanced stages—namely, the stage of collapse. The only hopes of success which experience suggested for relief were prompt measures of a preventive class; and they recommended that competent medical officers, who had practical experience of the effect of such measures on the progress of cholera during its late attack in Great Britain, should be sent out to promote the application of similar measures in the West India Islands, including systematic house-to-house visitation and immediate treatment of the premonitory symptoms, in the districts of Jamaica not yet attacked. This advice was adopted, and Dr. Milroy, and Dr. H. Gavin, with Dr. Laidlaw, who for several years was physician to the Consulate at Alexandria, and has had much practical experience in the treatment of cholera in tropical climates, have recently embarked at Southampton for the West Indies, with instructions to communicate with the local authorities there, and to assist in carrying into effect what preventive measures may be found available.

Original Communications.

ON THE
RISE, PROGRESS, AND VARIOUS TERMINATIONS OF CHRONIC OVARIAN TUMORS.

By Edward John Tilt, M.D.,
Senior Physician to the Paddington Free Dispensary for the Diseases of Women and Children, &c. &c.

[Continued from last vol. p. 1066.]

Effects of Ovarian Tumors on the Intestines.

The intestines are admirably calculated to bear with impunity any amount of pressure from neighbouring organs; and it is often surprising how well their functions may be performed for years, even when they are restricted to a very small space, provided their peristaltic movements be not interfered with.

We have seen that, when the tumor is pelvic, it must press on the rectum as it does on the bladder, and may thus become the mechanical cause of constipation and tenesmus. When the tumor is in the abdomen it is generally unattended by any painful effects on the intestines. Sometimes, however, the fold of the intestines will become involved in the pedicle of the tumor, and in consequence of this it will inflame, contract, and no doubt incur the chance of rupture. Thus the sigmoid flexure was involved in a wide pedicle, which, when measured on the tumor, was 9½ inches broad: and Dr. Atlee justly observes—"I have no doubt that in this case, as the cysts became developed, they elevated the posterior fold of the broad ligament as it reflected it off to the sigmoid flexure, and, stretching it as they enlarged, thus elevated the intestine and involved it in the pedicle."

The most alarming accidents of intestinal obstruction and volvulus have been repeatedly caused by the fold of the intestine becoming enlarged round, and constricted by, ovarian tumors.

Mr. Hardy, of Hull, has published (Lancet, April 5, 1845) a fatal case of rupture of an ovarian tumor attended by symptoms of strangulation, which were explained by one portion of the small intestine being glued and twisted round the neck of the tumor, and was quite strangulated. In this case Mr. Hardy's attention had been drawn to the tumor by the remembrance of this having previously impeded parturition; but in the following case the attendant had no anterior clue to the existence of an ovarian tumor, which adhered to the mesentery by a thick fibrous band, and was the cause of strangulation, which carried off the patient:—

Catherine Jagerndorfer, ætat. 46, had generally enjoyed good health; menstruation, previously suppressed for two years, had been re-established, and had proceeded regularly and abundantly. She had been confined four times, and had been a widow for the last sixteen years. At the cessation of menstruation she noticed that her belly became larger, and from time to time she felt dragging pains in the lumbar region; but, not being of a disposition to be alarmed, she paid no attention to these indications of disease, and continued to work as before. She did so for a year, when, on raising a very heavy weight, she felt a most excruciating pain in the inguinal region. Some slight remedies only alleviated her sufferings, and they soon became complicated by frequent numbness of the feet, and violent colicky pains, and by vomiting. Tormented by hunger, she often exceeded all bounds of discretion in satisfying her appetite, and it appears that repeated fits of anger made her worse. At last, not being able to bear with her sufferings, she entered the hospital at Vienna, and left in a better state of health, having remained there only eight days.

On the 13th of January, 1838, she was again taken with violent vomiting and colic, after an indigestion of veal, and she returned to the hospital on the following day. Her emaciated face and altered complexion, the slow, weak, and sinking pulse, the hot skin, and difficult respiration, showed too well that she was dangerously ill, notwithstanding the patient's endeavour to make the best of her state. The abdomen was swollen and painful, principally towards the umbilical region; diarrhœa had ceased, but she still vomited green bile. A vaginal exploration threw no light on the case. The abdomen was too painful to permit a satisfactory examination, and, from the march of the disease and other circumstances, it was suspected read were soon partially relieved by these means, whilst great benefit was unquestionably afforded by the local application, consisting of the Unguentum Opii and Unguentum Hydrargyri Fortius. The opium appears to prove beneficial by diminishing the excitability and irritability of the ulcer; but the modus operandi of mercury as a local application, or in what manner it affects the molecules of the system when given internally, is at present but very imperfectly understood. That the combination is an advantage I have no doubt whatever. The patient suffered most severely during the act of defecation; and this, though very frequent, yet is not always the case, as the pain is often more severe after the act of defecation has been completed. An explanation of the cause of this I shall offer you hereafter.

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On opening the body it was found that the seat of the disorder extended from the lower portion of the jejunum to the ascending portion of the colon. The right ovary, nine inches long, was fixed to the mesentery by a pedicle one inch in breadth, and occupied the left iliac region. An intestinal fold had glided underneath this tumor, and it (the fold) had contracted an adhesion with the epiploon. Another fold of the intestine passed under the same tumor, but at a greater depth, had assumed a deep brown colour where it was pressed by the tumor, and, in its turn, this intestinal fold was twisted round the cæcum, and strangulated it so tightly that it was not even possible to introduce the end of a sound between it and the cæcum. The cyst was composed of a fibrous envelope, and was full of dense gelatinous fluid (Caseau, Thèse : indication not given). Weiglin (Austrian Med. Year-Book) saw another fatal case of volvulus brought on by an ovarian tumor, and others might no doubt be found.

After relating such fatal terminations it is satisfactory to be able to turn to a much more frequent, and generally felicitous, termination of ovarian disease, by the adhesion of the cyst and the intestines, followed by an ulceration of the adherent portions of the cavities and the effusion of the contents of the abnormal cavity into the intestine.

We have shown, in our chapter on the morbid anatomy of ovarian cysts, that when the intestine is opened by an abscess, extravasation of fæcal matter is very rare, because—

I. The gradual emptying of the abscess is confined with constant abdominal pressure.

II. Because the opening is oblique, resembling that of the ureter into the bladder.

III. Because the intestine loosened from its attachment acts like a valve.

IV. Because, as Meniere mentions, the mucous membrane is forced inwards in the form of a papilla resembling that of the biliary duct.

Thus does nature come to our assistance in this emergency. She makes the opening small and valvular, disposing the valve so that, although the contents of the cyst easily pass into the intestine, those of the intestines cannot enter the cyst. This rule, however, is not without exception; for Camus, Bourdon, and others, have found fæces in ovarian cysts communicating with the rectum or the cæcum.

The possibility of recovery after this termination is dependent on the limited extent of intestinal surface in contact with the contents of the cyst; and it stands to reason that nutrition must be much more interfered with when the cyst opens into the colon and cæcum than when the tumor discharges its contents into the rectum; but fortunately, as in ovarian pregnancy, this last portion of the intestine is that which is the most frequently perforated. Denman, Sir A. Cooper, Blasius (Clinical Journal), Nauche, and others, have given cases of the emptying of the cyst by the rectum terminating in recovery.

A type case of this form of disease occurred to Dr. Channing, and is related by Edward Humpage, of Bristol, in his American Notes on Med. Schools and Establishments, Prov. Med. and Surg. Journ. Sept 19, 1849.

Mrs. ———, married, and has children. I saw this patient with another physician. A tumor filling most of the lower part of the abdomen presented itself. It was unequal in its outline, as if composed of many tumors. It was felt in the vagina, and so far filling it as to press the neck of the womb firmly against the symphysis, giving much trouble in passing urine. The uterine periodical function continued. Much suffering attended this disease: at times acute inflammatory attacks. The health had sunk; emaciation had occurred. The situation of the patient seemed hopeless. In its treatment constant efforts were made to sustain the patient, while means were used to keep inflammatory processes in check and to prevent increase of the tumor. Leeches, vesication, iodine ointment, hydriodate internally, the solution of muriate of lime, &c., were among the means employed. At length a new symptom showed itself, which was the precursor of recovery. An involuntary and copious liquid discharge took place from the rectum. Some of it was collected in a vessel and examined; it was a perfectly transparent, dense, gelatinous liquid, very adhesive, and having a distinct albuminous odour; there was not the least trace of fæcal smell in it at any time. The discharge went on, the tumor grew less, the pains which Mrs. —— had so long suffered ceased, she regained appetite, strength, and flesh, and is now well.

Is not this case of some interest in this regard,—that it shows how a disease of the ovary, consisting of a fluid deposit and threatening life, may disappear and recovery happen where opportunity is offered for constant discharge of the fluid as it forms? The sac or sacs may thus have an opportunity to contract, new processes occur in them from exposure to the air, and at length the sac disappears; what is done by rude surgery—the pulling away or cutting away the sac, or removal of the tumor by excision,—is done by a gentler and wiser hand, and recovery follows. May not the ovary be punctured through the rectum or vagina, and the natural surgery be thus in some sort imitated?

Still more extraordinary is the case seen by Hensinger (Schmidt's Med. Annual, vol. ix. p. 91).

In consequence of ovarian dropsy having been often complicated by severe abdominal inflammation, the womb, bladder, rectum, and vagina, became so implicated, that the patient sometimes passed fæces and urine by the anus, sometimes by the vagina. The abdomen became much distended, but decreased after the patient had passed upwards and downwards a great quantity of water containing hydatids. This was repeated more than once without a fatal result to the patient. Mr. J. Jeaffreson also cites a case of cure of an immense ovarian cyst by the spontaneous rupture of the recto-vaginal septum, and abundant evacuation by both passages.

From the following interesting case it would appear that the fluid of a cyst might at times pass into the stomach, and by regurgitation be evacuated by the mouth:—

Case of Abdominal Tumor (probably ovarian) of the left Ovarian Region—Evacuation of its contents by the Mouth and Rectum.

A woman, 36 years of age, and of strong constitution, who menstruated for the first time at fifteen, and was a mother at sixteen, entered the Maison Centrale de Clairvaux in 1848, and soon after menstruation became irregular. In August, 1849, the catamenia were increased to a flooding, and were accompanied by hysterical symptoms. A careful speculum examination showed the uterus to be in a healthy state. The abdomen became painful on the left side, where a tumor soon appeared, which continued to progress for three months, notwithstanding the external and internal employment of iodide of potassium, lead, and mercury, and at intervals the patient had a sanguinolent uterine discharge.

About that time; without any evidence of disease of the stomach, and without any disturbance of the functions of digestion, the patient began to bring up a fluid between the intervals of her meals. It could not be called vomiting, for so easily did the fluid ascend, that when dosing the liquid would pour out of the patient's mouth, and this lasted for four months. She brought up daily about six lbs. of a pale yellow clear fluid, of a saline taste, frothy on its surface, and without deposit. In the meantime the patient had vicarious discharges of blood every three weeks by the vagina, the ears, and the nose. A more generous diet than the usual prison allowance, and steel, caused these symptoms to diminish. The patient, on approaching the end of the two years of confinement to which she had been sentenced, became greatly excited. Her bowels were so costive that aloes, gamboge, and croton oil, were given to relieve them. This medication was followed by diarrhœa. After the first three days the stools presented nothing but a fluid similar to that which had been brought up. About six lbs. of this fluid were passed in about twelve stools in the course of a day, and the tumor diminished in size. The patient's appetite and digestion became good, the mucous stools ceased, and the patient left the prison in a tolerable state of health.

Remarks.—Dr. E. Bourdet, who relates this interesting case (Union Méd. tom. iv. No. 125), supposed the tumor was ovarian, and that it had burst twice,—first, in some place near the stomach, second, in some other portion near the rectum; and he adds that the only two medical men who visited the prison during the patient's illness adopted his diagnosis. We are of the same opinion; but we opine that too active a treatment may have been the cause of both openings of the cyst into the intestine, and cannot refrain from expressing our disapprobation of the drastics which were so lavishly employed. If, to relieve the constipation, the attendant had remembered that it had come on while the poor woman was in a state of intense excitement, he might have procured the stools by giving one-hundredth part of the purgative medicine, by combining it with doses of opium to allay the intestinal spasm—a plan of treatment of which Dr. Billing has so well shown the efficacy in removing intestinal obstructions, —a plan which is equally effectual in removing spasmodic obstructions of the uterine portion of the generative intestine, and which must be considered as one of the sounder principles of general therapeutics applicable to the diseases of conalicular organs.

MORBID DYNAMICS OF THE NERVOUS SYSTEM.

By **Thomas Williams**, M.D. Lond. Univ.
Licentiate of the Royal College of Physicians.

No scientific physician can regard with indifference the recent controversy between Dr. Marshall Hall and Dr. Todd. Dr. Hall claims for electricity, as applied to the nervous system under certain diseased conditions, "*a diagnostic value.*" Dr. Hall demonstrates, I think conclusively, that, by means of electricity as a test, cerebral may be distinguished from spinal paralysis. Who can refuse to invest this fact alone with a high degree of interest and importance? The nervous system is liable to many morbid conditions, inciting to morbid manifestation of "force," which neither the scalpel nor the microscope of the anatomist can connect with any lesion whatever of structure. The mind cannot realise the mental conception of a "*morbid*" force. The "nervous" force is an imponderable agent, if it be an agent at all. This very imponderableness, almost synonymous to the mind with immateriality, precludes the possibility of any "morbid" condition of the "force" or "agent" itself. It is a tacit understanding among pathologists that all morbid resultants of a diseased nervous condition resolve themselves into mere errors of degree, greater or less. It is believed that the nervous battery cannot produce "vitiated," "depraved," "unhealthy," &c. nervous force: implying that while such qualitative epithets may be applicable, in strict accuracy of language, to the functional products of any other organ, they become incomprehensible when used with reference to the "nervous force," or the functional production of the nervous system. Recent researches, to which a special direction was first given in the splendid and masterly essay of my friend Mr. Grove,* promise, however, to impart to the ideas of "nervologists" a more just and scientific character. If, as Mr. Newport and Dr. Carpenter have recently contended, heat be susceptible of transmutation, through the agency of the living organism, into the "vital principle," and the converse; and if, as Matteucci has skilfully reasoned, the "nervous force" (which, in common with every physiologist, I use only as a demonstrative expression) be converted in the *muscles* into actual electricity, that electricity which deflects the galvanometer, and in the electric organ of the torpedo still more unequivocally, as established by the experiments of Faraday, it appears but a continuation of the same reasoning to suppose that certain diseased conditions affecting the molecular structure of the productive masses of the nervous system may produce a "nervous force" of bad quality, may evolve an agent distinguished by properties more or less different from those characteristic of the normal and healthy "nervous force." This transmuted agent, still imponderable, may react as a poison upon the system, as it frequently happens with the disordered *material* products of other organs. The poisoning in the former case could only become legible through the dynamic phenomena; no destruction of substance would occur, no departure from normal organization: but can such negation render the phenomena the less *real?* When a current of electricity is transmitted through a muscle, it produces in the structure of the latter no mechanical change; but are the contractions excited the less real? Mutual convertibility is now proved to be a fundamental law of relationship between all the imponderable forces, organic and inorganic. Heat, light, and electricity, are the permanent or stable conditions of one and the same force. But it is extremely probable, from the known properties of the polar spectrum, in which certain of the luminous rays approximate *more* nearly than others *in nature* to the "principle" of heat, being the transitional or *instable* condition in which they exhibit properties intermediate to the two extreme powers, that the "nervous force" may have certain *instable* gradations to pass through before reaching any one of those stable conditions known under the names of light, heat, and electricity. An imponderable agent cannot be converted into a ponderable substance; and science acquaints the physiologist with no other known "power" than those enumerated, into which disease affecting the productive nervous centres can commute the normal "nervous force." Since no stable dynamic power is known to occupy the interval which separates "nervous force" from "electricity" and heat (three stable affections of an identical power), the supposition may, for the present, be put that, under certain diseased conditions, the nervous centres, instead of evolving normal nervous force as their functional product, generate heat or electricity (the correlative equivalents of the former), which reacting as potent stimulants upon the nervous and muscular system, may suffice to produce the terrible phenomena of tetanus or hydrophobia. No harm can result from the circumspect enunciation of such opinions. The tendency of recent researches in physical science must henceforth impart to the views and speculations of physiologists a novel direction. There must be pathological dynamics. When Dr. Hall shows that, in spinal paralysis, the excitability of the muscular system, under the electro-magnetic stimulus, is *greater*, in cerebral paralysis *less*, than in the sound state, a fact is realised which no post-mortem inquiry could ever reach. But is it the less *a fact?* and cannot such a fact be utilised in conducting the mind to a new and higher induction—to the discovery of a new physiological principle—to the relief of human agony? If, however disease—invisible disease—can impress upon the nervous structures the power to *transmute* the nervous force, the same invisible, inappreciable disease, may altogether annihilate the functional power. This, in the instance of other organs, would be described as the "suppression" of function. The lightning stroke produces this result: it unmagnetises the nervous masses, it annihilates their normal polaric tension, and occasions instantaneous death. What the lightning stroke thus effects in an instant is accomplished by the insidious march of many forms of disease, producing during life the saddest spectacle of senseless and disabled limbs, without a single post-mortem trace for the satisfaction of the pathologist. When disease has *destroyed* the functional power of the nervous matter—when, in other words, the case refuses to yield reflex excito-motory phenomena—it may be announced as a rule that the electro-magnetic stimulus is incapable of exciting the paralysed parts. The following case is adduced in illustration. It is that of a young man, of 28 years of age, in whom the lower extremities became paralysed soon after having exposed himself to a stream of water falling continually as a "dropping" stream upon the centre of the "bare back," while at work in a deep coal-shaft. Examination now detects a small spot, acutely painful, on the spinal column, corresponding with the last cervical and first dorsal vertebræ. There is no reason whatever to suppose, from the *rational* signs of the case, that the inferior portions of the cord are affected. Desirous to arrive at a certain diagnosis with reference to this particular point, I requested the assistance of my most able friend, Mr. Benjamin Hill, of Fountain Hall, whose profound acquaintance with electricity and manipulative skill as a scientific experimentalist have won for him the esteem of some of the greatest living philosophers, in the diagnostic application of electro-magnetism. Although in this case the results are of a negative character, they may serve to show the applicability of electricity as a diagnostic agent in determining the degree and extent of disease in the spinal centre..

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* "Correlation of the Physical Forces," 2d ed. Highley, 1850.

My dear Sir,—In accordance with your request on Saturday last, I tried the effects of galvanism in the case of John Baker.

The battery arrangements and order of experiments were as follows:—

A platinum and zinc battery, excited with sulphuric acid, diluted with seven parts water, eight platinum plates, each eight square inches, together exposing a surface of sixty-four inches, arranged as a single pair.

Exp. 1st.—The right leg, from the knee to the first joint of the great toe, were brought between the terminating wires of a *secondary* coil; no contraction of the muscles whatever was excited, nor could the man perceive the slightest sensation when contact with the battery was either made or broken. The left leg was tried with the same results with the same arrangement. I tried the same experiment upon a person named D. Davies, in whom a slight jerking of the leg was excited, and accompanied by a "sensation" at the ankle and at the point of contact at the knee.

Exp. 2.—I applied the terminating wires to the hip, and at various points along the spine, both below and above the sensitive spot, but in no case could Baker perceive any sensation.

Exp. 3.—The wires placed in each hand, a slight sensation as far as the wrists was felt; but upon comparison with the same experiment upon D. Davies, myself, and another person, the sensation was decidedly less upon Baker.

Exp. 4.—The battery arranged into a series of eight pairs of plates and applied in the order before described, but in no instance was there any effect produced. In order to satisfy myself that the current did pass, I made Davies hold the negative terminating wire in one hand, while with the other he grasped Baker's foot: I held the positive wire in one hand, while with the other I grasped the knee (our hands being well moistened with dilute sulphuric acid). Upon making and breaking contact, both Davies and myself felt a succession of smart shocks, while to Baker they were imperceptible.

Exp. 5.—The wires being placed in Baker's hands, there was a slight contraction of the muscles of each arm as far as the elbow, but certainly in a less degree than with myself, Davies, and two other persons.

Exp. 6.—The wires being applied to the base of the skull and along the spine, both above and below the sensitive spot, Baker described a sensation of heat at the points of contact, but most acute at the upper part of the neck. Changing the position of the wires did not change the sensation.

I requested Baker to pay particular attention to the sensation produced by passing the wire downward along the spine: he did not feel any particular difference whether the wire was above or below the sensitive spot, but was sure that the sensation of heat was greatest at the base of the skull.

On Monday I determined to try the effect of a more powerful battery. I accordingly arranged a Grove's battery in a series of seven pairs of platinum and zinc plates, exposing about eight square inches of platinum in each cell.

I proceeded in the same order as before. The wires being applied to the toe and knee of the right leg, on making contact with the poles of the second pairs of plates Baker experienced a very slight contraction of the muscles of the leg; I therefore resolved to try the same upon myself. I experienced a powerful shock when contact with the battery was made, which caused me involuntarily to draw my foot from the wire.

I then tried the experiment with several other persons, and invariably with a more acute perception of galvanic effect than Baker evinced.

I concluded the experiments upon Baker in the same order as before described; Baker with increased battery power was susceptible of galvanic action, but certainly not in an equal degree with other persons. I beg to observe that he was more sensitive when the current passed from hand to hand, than when it passed from hand to foot, or from foot to foot.

I also took particular care that the part in contact with the terminating wires was moistened with water, slightly acidulated with sulphuric acid

I remain, my dear sir,
With greatest respect, yours,
Benjamin Hill.

T. Williams, M.D.

P.S.—The bearers hereof are John Baker and father, who will be most grateful for your further advice with regard to his son.—B. Hill.

Fountain Hall,
Nov. 26, 1850.

From the results thus carefully obtained and faithfully narrated by my competent friend Mr. Hill, I have drawn the following conclusions, which, without such evidence as that elicited by the observations of Mr Hill, could not have been arrived at:—

1. That originally meningeal inflammation commenced in that portion of the cord corresponding in situation with the last cervical and first dorsal vertrebra.

2. That this inflammation has subsequently extended upwards and downwards along the thecæ and meninges, spreading also inwards into the grey matter of the cord, destroying its productive power, and therefore its susceptibility to the electric stimulus.

3. That the focus of disorganisation in the medulla coincides with the sensitive spot at the last cervical and first dorsal vertobra, discovered by pressure and percussion over the spinal column.

4. That the loss of sensation and motion, below a given limit on the spinal column, is not evidence of destruction of substance in the medulla itself, below that limit.

5. That it is probable that a *constant* current of nervous force passes centrifugally along the motor nerves, and centripetally along the sentient, and that this current it is which maintains the "tonicity" of the muscular system.

6 That when reflex phenomena cannot be elicited, and especially when the muscles of the paralysed parts are inexcitable of the stimulus of electricity, the inference may be confidently drawn that the spinal centre is the subject of complete disorganisation.

7. That spinal arachnitis ending in myilitis is remarkably rapid, and fatal in its influence upon the functions of the spinal chord.

8. That it is highly important, therefore, to successful treatment, that remedies should be promptly and energetically used at the very outset of the disease, of which the true nature it is of the greatest consequence at the earliest period to determine.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 2d January, 1851:—Olivier Cooper Pollard, Chorley, Lancashire—John Doxon Ward, Manchester—Charles Robert Thompson, Westerham, Kent—Henry Parker, Sheffield, Yorkshire.

OBSERVATIONS ON
THE PRACTICE OF PHYSIC.

By Dr. Child,
Consulting Physician to the Westminster General Dispensary.

SINCE last directing attention to the subject of pseudo-flatulence (MEDICAL GAZETTE, 1843) several distinctly marked cases of that affection have occurred to me, all of which had been combated by a variety of carminatives, and by other treatment directed to the stomach. Such treatment is utterly useless. These cases almost always occur in hysterical subjects, in whom the muscles of deglutition are prone to irregular action, as was observed in a patient lately under my care. A married woman, aged 36, of nervous, mobile temperament, complains of an indescribable but most uneasy sensation in the right side of the abdomen. To relieve herself she walks quickly up and down the room, twists about her right arm violently, or presses strongly on the side. At such times one may observe the muscles of the throat in violent, irregular action, during which a large quantity of air is gulped down into the stomach. She is evidently under the influence of alarm: the face flushes, the muscles of the neck contract, the jugular veins swell, the eyes become prominent, and she feels as if about to be suffocated. After the stomach has been distended with air up to a certain point, nausea, retching, and belching supervene, as is usual in these cases, to the great relief of the patient. The digestion is perfectly good. The enormous quantity of air brought up from the stomach in such cases always arrests the patient's attention, and the physician is accordingly consulted on account of flatulence. It is needless to repeat that it is mistaken practice to direct the treatment to the stomach, with which there is in reality nothing wrong. The accidental source of the flatulence should be carefully pointed out and explained to the patient herself; and thus the recurrence of the disorder may be in a great measure prevented by her own self-control. The cure will be assisted by recommending the patient, when thus attacked, to eat or drink something, so as moderately to fill the stomach, or to take a draught containing an antispasmodic medicine; as camphor, ether, &c.

During the eight years I was physician to the Westminster General Dispensary I saw no nearer approach to catalepsy than the case I am about to relate: it is certainly in some other respects also interesting, and shows the almost universal involvement of the nervous system in hysteria, and the odd mixture of paralysis and spasm. J. L., a stout, unmarried, young woman, aged 23, and, although a sempstress, in comfortable circumstances, came under my care in February 1847. She had been on several previous occasions a dispensary patient on account of bilious attacks, and I was able to ascertain that her disposition was cheerful, her temper good, and her mind steady and well-regulated. I found the patient in bed, and was informed by the mother that, three days ago, her daughter, being then in good health, was suddenly frightened by the explosion of a small quantity of gunpowder. She instantly lost all consciousness, and apparently had not recovered it up to the time of my visit. She lay in bed with the eyes open, fixed, staring, and vacant; the pupils were sluggish, and contracted imperfectly when a bright light was applied, and there was no winking unless when the eyes were actually touched. She took no notice of shaking or pinching, or of questions; indeed, she appeared to be totally unconscious of sound, even when words were roared into her ear. There was no shrinking from water suddenly and forcibly sprinkled on the face, but it slowly produced deep inspiration. She swallowed with extreme difficulty: a teaspoonful of water allowed to flow into the pharynx caused coughing and choking, with spasmodic movements of the eyeballs. The breathing was imperfect, an interval of from six to ten seconds frequently intervening between expiration and inspiration. Pulse 92, languid; no heat of skin: in fact, there were neither symptoms of excitement nor of collapse. The lower jaw was strongly depressed: in other words, the mouth was fixed wide open, and much force was required to close it: when the force was removed the mouth slowly opened again. The tongue was retained firmly protruded out of the mouth, to a degree which would speedily have produced intolerable aching in any one trying to imitate her. There was no rigidity in the muscles of any other part; on the contrary, she had lost nearly all power in the arms and legs. The legs were quite flexible, and retained any posture given to them, provided they were supported. The arms likewise were quite flexible, and, if supported, also retained the position given to them. If raised from the bed, and set at liberty, they slowly fell back on the bed, as if there was a certain amount of cataleptic tendency to fix which opposed their return. If the forearm was raised, while the elbow rested at a right angle on the bed. The forearm remained directed upwards for a considerable space of time; and, when the balance at last got much disturbed, it fell slowly down on the bed. In short, those positions were maintained which required but little muscular power. The bowels had not been opened for three days, and during the whole of that time she had passed water only once in small quantity, and apparently without being conscious of it.

A turpentine enema was administered, and she improved a little in the course of the night: the following day I found the improvement confirmed. She sometimes moved her arms about, seemingly at random and without object; at other times she kept motionless in any position given to her as she lay in bed. The eyes were no longer rigidly fixed, although still staring; and during the whole period of my visit, or rather several visits that day, they followed me in all my changes of position about the room. She had imperfectly recovered the use of speech, repeating monotonously over and over again three words only,—"mother," "my," and "chest." She still took no notice of questions, and did not appear to be conscious of anything that was passing around her On the fifth day of the attack she had recovered so far as to be able to recognize her sister, and all irregular muscular action had ceased; the bowels and the bladder had again begun to act naturally. Still the reasoning part of the brain had not righted itself, for on hearing some noise in the street she became greatly agitated and distressed, and she continued during the rest of the day to implore urgently, although with imperfect utterance, that she might be removed to some place of safety: she could not be pacified. From this time, however, she steadily recovered, and in a few days she was again quite well. It was subsequently ascertained that she retained an imperfect and confused recollection of many things that had been said and done at a time when she appeared to be quite unconscious.

The case given above seems allied to catalepsy, to what is called ecstasy or trance, to coma, paralysis, and tetanus. It appears to me to have much affinity also to some of those singular states of the nervous system produced in persons said to be under the influence of animal magnetism: it presents an epitome of many of the most remarkable effects caused by mesmeric operations. The primary disturbance is emotion, and this is the cause of all the disturbances and perversions of nervous power which follow. It matters little whether that disturbance be fear, as in the present instance, or the mixture of emotions with which most persons submit to the passes of the mesmeriser: the result is the same. If, in the case just related, we turn our attention to the faculty of volition, we observe it to have been in the same state as it is in many cases of hysterical seizure and mesmerism. At the onset, volition is suspended by the intensity of the cerebral disturbance. At a second period, volition can be exerted so as to restrain or execute with an effort various muscular acts; but the volitional effort cannot be sustained, and the patient relapses. At a third period, the functional disturbance ceases, and volition resumes its sway. These states pass by insensible degrees into each other.

The disease in the case just related was the direct consequence of emotion. Were its effects limited to any one part or system of the cerebro-spinal axis? Emotions produce disease either from their intensity, or from their disordering nature; and the degree in which the rest of the system is involved is usually in proportion to the impressionability of the individual. In the case detailed above, the operation of these causes spread functional disturbance of one kind or another over nearly the entire nervous system. The symptoms showed that the nerves of common and special sensation, as well as the motor and ganglionic nerves, were involved. One main characteristic of hysterical or morbidly impressionable persons is the facility with which disturbing forces of slight intensity act, the magnitude of the effects produced being out of all proportion to the exciting cause. The kind of disturbance produced is seldom of that regular and consistent character which is observed in most other diseases, of the nervous system. There is, in fact, scarcely any variety of morbid symptom attributable to different abnormal states of the nervous system which may not be, under certain circumstances, excited in the hysterical by the slightest disturbing causes. In the case related there were paralysis, tonic and clonic spasms, together with diminished or suspended secretion: yet these affections, often considered antagonistic, arose in this case, as they do in other forms of hysteria and allied disorders, from one and the same general condition of the nervous system; and, although apparently so different, were all cured by the same therapeutic means.

The close dependence of increased motion and diminished power of motion, or palsy, upon the same general state of the nervous system, is often witnessed in chorea. Of course I am not now speaking of apparent weakness arising from irregularity of muscular contraction, but of actual loss of power. These opposite states, indeed, sometimes alternate with or pass into each other without any appreciable corresponding alteration in the nervous system. A girl, 11 years old, was under my care on account of chorea affecting the right side: she had been subject to it for about five years; the complaint, as often happens, becoming worse when the cold weather of winter set in, and improving in the spring. On one occasion, when suffering from the complaint, she entirely lost the use of the right arm and leg, and for a long period afterwards the leg continued to drag. Not long ago a boy and his sister were under my care on account of chorea. In the boy, aged 9, the attack was acute, having commenced only nine days previously. Coinciding with this attack of chorea there was a remarkable falling down of one of the shoulders, which could hardly be raised in the least degree by any effort of the patient. The sister, a year younger than her brother, was seized with almost complete loss of power in the legs just before the attack of chorea came on In fact, it appears to me that there are perhaps few cases of chorea in which a tendency to paralysis in some shape may not be at times distinctly observed.

NOTES ON THE

STRUCTURE, &c. OF TEETH.

By C. Spence Bate, Esq.

[Continued from p. 705 of last vol.]

Crusta Petrosa.

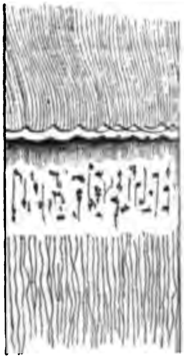
1. This structure, which is also named cementum, on account of its supposed use in holding together or cementing the other tissues of the tooth, arrives at the greatest point of development in those teeth in which the enamel contorts itself upon the surface of the dentine most irregularly—a peculiarity which has been designed in creation shall be the case with the teeth of herbivorous and graminivorous mammalia, in order to adapt their surfaces to a more complete fulfilment of the process of trituration; whereas, in those teeth in which the enamel covers the surface of the dentine as a simple layer protecting the tooth, the cementum only exists as an invisible layer over it; and it is also unimportant on the surface of the fangs of the teeth of all animals: that is, where the cementum comes into immediate contact with dentine: therefore, those who wish to observe the development of this interesting but least studied structure of the tooth must watch its progress in the teeth of graminivorous mammalia.

Definition of the term.

2. It would have been better, perhaps, if some name were given, defining the true origin of the different kinds of *crusta petrosa* (also called *cementum*, and which furthermore has been described under the titles of *cortical substance* and the *persistent capsular investment*), and the relation which they hold to the completed structure. Without taking upon myself the responsibility of coining new names, which, by multiplying, can only lead to confusion, yet, for the sake of clearness in making myself understood, it will be necessary to separate the synonym, and give to *crusta petrosa* and *cementum* each the power of representing a separate structure. Thus, when *cementum* is spoken of throughout this paper, it is intended to convey the idea of osseous tissue developed from membrane—viz., the external capsule by which the pulp is enclosed. Thus, in the crown of the human tooth, cementum is the ossification of the membrane which enclosed the enamel pulp; while on the fang it is the outer membrane of the dentinal pulp, which membrane also ossifies upon the surface of true crusta petrosa in graminivorous mammalia. In fish, the analogous membrane is converted into osseous structure over the surface of the teeth, giving to them the glossy and polished appearance of true enamel. Among the latter class of teeth it has been given the name of *vitro-dentine* by Professor Owen, while Professor M'Coy has defined it under the synonym of *ganoine;* but under whatever name it may be recognised, it seems to be homologous with and represents the cementum in teeth of mammalia.

A similar layer of osseous structure, but not representing it, being the ossification of membrane covering the dentinal pulp, and therefore continuous with the cementum which covers the dentine upon the fangs, exists between the dentine and enamel. The presence of this structure is perhaps in the majority of teeth so very thin, that its presence may generally be overlooked; but it increases to a degree of importance in the structure of the tooth of the hippopotamus, from a section of which the annexed cut (fig. 15) is taken.

Fig. 15.



Layer of osseous tissue, analogous to cementum; between the enamel and dentine. From a tooth of the hippopotamus.

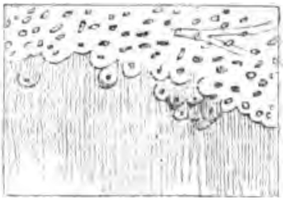
But when mention is made of crusta petrosa, allusion is intended to the more important structure so fully developed in the teeth of graminivorous mammalia, having an origin distinctly differing from that of cementum—viz., in the ossification of a portion of the same pulp from which enamel is developed, by an arrest in the growth of the latter structure. Therefore, as an example, I should say, in the structure of the tooth of an ox, the cementum overlies the crusta petrosa, which latter structure is, as far as I am aware, confined to graminivorous mammalia, whereas the former is common to the teeth of all animals. To use the words of Professor Owen, "there is not such a thing in nature as a tooth without cementum."

The crusta petrosa is the result of an arrest of development of the enamel pulp.

3. The structure of enamel continues to proceed in its development until the tooth protrudes through the gums, up to which period crusta petrosa has not commenced to be deposited. In the sheep the enamel dips into the structure of the tooth at the centre of its crown; and, at the period when the tooth commences to protrude through the gums, this deep depression, afterwards occupied by crusta petrosa, is filled by a highly vascular organ, being the remains of the pulp from which the enamel is developed. In the ass, shortly before the molar teeth (in which the enamel is doubled upon the dentine in many complicated folds) are prepared to issue through the gums, the pulp from which the enamel is developed still exists, and no trace of crusta petrosa is present.

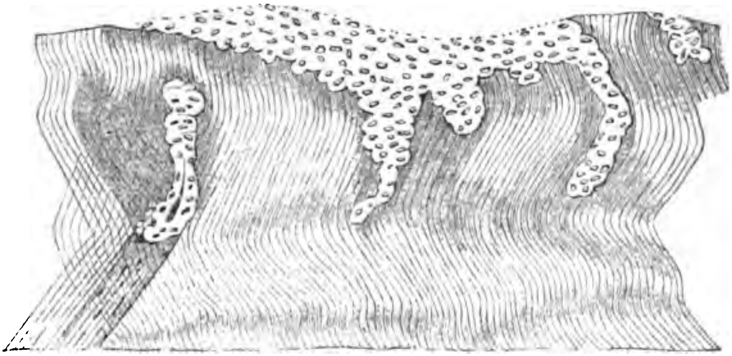
The blood-vessels which ramify upon the sac, and those which supply the organ from which crusta petrosa is developed, are not the same as those by which the dentinal pulp is fed; the former being nourished by branches of those which supply the mucous membrane of the mouth; the latter by offshoots from an artery deeply seated in the maxillæ. As the tooth advances towards the completion of its development, and causes absorption of the soft parts in its progress through the gums, the blood-vessels of the enamel pulp and capsule are thus severed from their connection with those external blood-vessels through which they received their nourishment. Such being the case in other parts of the animal organisation, under ordinary circumstances, death, with decomposition of the part, must be the result; but Nature, ever fertile in adapting the means to fulfil the end designed, has already introduced into this organ an abundant proportion of material which precludes animal tissues from passing into a state of decomposition. The calcareous salts which enter into the structure of the teeth, after having been brought through the agency of the blood, and previous to its being secreted by the cells, are held in solution by the fluid in which these nucleated cells exist. The connection between that portion of the tissues of the tooth which developes cementum, and the general circulation, being severed, this organ must then, as far as vitality is concerned, be considered dead, and becomes governed by laws purely physical, having no dependence upon the system generally. Thus crusta petrosa, in teeth of all animals, is, where it exists on the crown, a transformation more or less of the enamel organ, by an arrest of its development, which results in a simultaneous solidification into osseous structure of the whole mass, including the external membrane; which latter is continuous over the whole tooth, forming the most external layer in the structure. That such is the case, the sections of teeth from which the accompanying illustrations are taken have assisted me to conclude, fig. 16 having been taken from a section of the crusta petrosa in connection with enamel from the tooth of a horse, where the arrest of development is shown in the peculiar line of demarcation where the two structures meet. Appearances also very like exist in a section similarly taken from the tooth of an ass. Again, in the adjoining fig. 17, taken from a section of a molar

FIG. 16.



Crusta petrosa in contact with enamel, from the tooth of a horse.

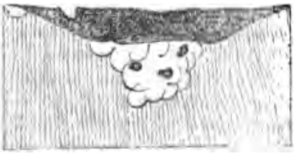
FIG. 17.



Enamel and crusta petrosa, from the molar of an elephant, in which the latter structure is seen to dip deeply into the former.

of an elephant, the crusta petrosa is not only seen in contact with the enamel, into which structure it dips deeply, but a portion may be observed actually isolated, being surrounded wholly by enamel: but fig. 18 exhibits the same phenomenon in a more interesting point of view: it is taken from the hippopotamus, where the cementum holds a relation in importance similar to that which protects the enamel of the human tooth. In some places development of the enamel seems not to have been carried to an equal extent, and the cementum, which exists upon the surface but as a thin layer normally, is sometimes separated from it by a distinct structure, which I believe to be the result of an arrest of development of the enamel pulp, and analogous with the crusta petrosa in graminivorous mammalia, possessing the same nodulated or cell character, containing lacunæ. I would lastly refer again to the incisor of an ox, in which the peculiar character of crusta petrosa, containing lacunæ similar to those in that structure in other teeth, exists only upon the enamel; whereas that portion of cementum developed from the external sac surrounds the whole tooth, evidencing a marked relative dependence of true crusta petrosa upon the presence of enamel. But these are all second to the observed fact already mentioned, that in a tooth prior to protrusion—*i. e.*, prior to the connection between the pulp and external means of being nourished is cut off—the crusta petrosa is represented by soft vascular tissue.

FIG. 18.



Cementum and enamel, from the tooth of the hippopotamus.

It may be suggested that, were the latter developed tissue the result of an arrest in the development of enamel, the structure of the one would gradually blend into that of the other; but, if we retrace our steps a little, and again look into the development of the enamel, we shall find that it tends to corroborate the proposition already advanced.

Among graminivorous animals a layer of extra vascular secreting cells exists, which must be formed previously to the normal development of enamel—at the period when crusta petrosa commences—that is, when the enamel pulp is cut off from external connection; no more secreting cells are formed, but those already formed normally *complete* their office of secreting lime from the ossifying pulp: then we find that the enamel growth is arrested where the extra vascular secreting cells cease; those from which the crusta petrosa is developed not as yet having been broken up into secreting cells, and are scattered irregularly throughout the pulp. Evidence of this seems to exist strongly in the tooth of the hippopotamus, where the outlines of the original cells may still be seen with the nuclei scattered in the mass; and thus, we curiously observe, arising from an absence of complete development of the enamel pulp, isolated fragments of true crusta petrosa existing at the expense of the enamel structure in the tooth of an animal in which crusta petrosa is not nominally present. Again, we have evidence of the relative dependence of the crusta petrosa upon the enamel, by observing that the arms or processes of crusta petrosa assume the curvature which the prisms of enamel take; and moreover, that the enamel, which continues from the isolated fragment of crusta petrosa, is defective in its structure, it evidently having been developed from a portion of the pulp in which diseased or abnormal action existed—a circumstance which would also account for the unequal arrest of development in different portions of the pulp.

Development of Cementum.

4. The cementum on the fangs and crown of the teeth, whether it be in immediate contact with dentine, enamel, or crusta petrosa, is invariably the ossific remains of the membrane which enclosed, and in a sac, the pulp of the tooth, and the manner in which it is developed is similar to that of crusta petrosa—viz., in consequence of being cut off from nourishment, it becomes atrophied; but this takes place on the surface of crusta petrosa simultaneously with that structure, when, on the surface of enamel, as in the tooth of man, it succeeds immediately as a result of the completion of that tissue. Upon the surface of the dentine it slightly differs; is present shortly after the commencement of the development of dentine. The reason is obvious: on the enamel, which commenced in its growth on the surface next the dentine, the sac cannot ossify until the enamel growth is completed. On the fang, the dentine commences to ossify at the point of the pulp nearest the sac, the external surface of the tooth.

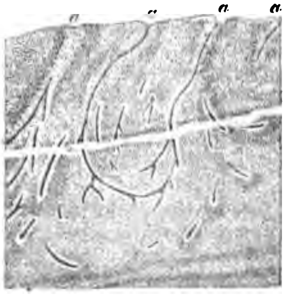
Resemblance of Crusta Petrosa to Bone.

5. This substance is considered to resemble true bone in its appearance more than any other which enters into the structure of the tooth, the semblance depending upon certain opaque spots, being cavities, termed lacunæ. It is argued that these similar appearances must be produced by a uniformity in the causes in which they originate. The development of these bodies has, I believe, never been satisfactorily made out, the most received opinion concerning those found in bone being that they are the nuclei* of cells which secrete the bone-earth; but how the mere spots, being all which the nuclei exhibit, send out far-spreading branches (the canaliculi) has not, I believe, been attempted to be shown.

The Division of Lacunæ formed in Teeth into two classes; one having its origin, like those in bone, from nuclei of cells, the others in the blood-vessels of the undeveloped pulp.

6. The lacunæ which are found in the teeth of animals vary not only in the teeth of different animals, but even in the same tooth, each class of lacunæ always partaking of a form characteristic of the origin from which they are developed. In all those teeth in which the crusta petrosa is formed by an arrest of development of the enamel pulp, the lacunæ are small, irregularly formed, being generally four or five times as long as they are broad, being very numerous and thickly set, mixed with lines, being tubes, more or less abundant, but which invariably continue their course until they reach the external surface of the structure,—a fair example of which may be seen in the accompanying cut, taken from the section of the crusta petrosa of the molar tooth of an elephant (fig. 19); but among those teeth, of which the human may be taken as the type, the

Fig. 19.



Crusta petrosa, from the tooth of an elephant.

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* Todd and Bowman's Physiological Anatomy.

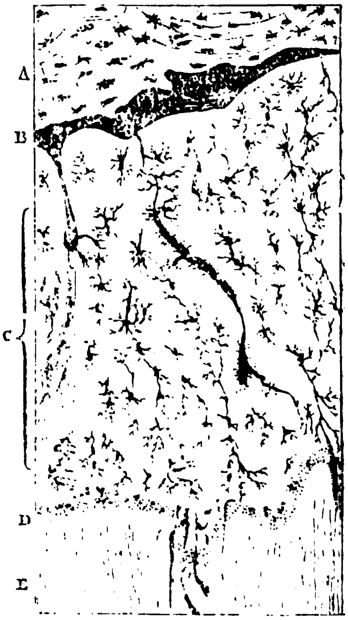
lacunæ are irregular, connected, and arborescent in their appearance. In this class of tooth there is no crusta petrosa, the cementum being in immediate contact with the enamel on the crown, and the dentine on the fang having little more than a theoretical existence; and that portion of the human tooth generally described by authors as the cementum is not true cementum, but hypertrophy of the fang—that is, it is not present when the tooth is recently developed. It is not the ossification of the external membrane of the pulp, but a deposit of later and abnormal growth, the result of ossification of the periosteum successively repeated, the vascular membrane first being thickened by inflammatory action, and secretion of calcareous matter succeeding; and the lacunæ, to which allusion has been made above as existing in the human tooth, are to be found in this structure of later growth,—the so-called petrosa or cementum of authors—which sometimes, from age and disease, increases to such en extent as to occupy the space which intervenes between the tooth and the walls of the alveolus; and anchylosis of the tooth with the jaw takes place, or sometimes it in a similar manner unites one tooth or fang of a tooth to another. This increase of osseous growth, when it proceeds to any great extent, constitutes of itself a disease recognised under the name of exostosis.

It is the lacunæ formed in this structure that I wish to classify as distinct in their origin from those formed in the crusta petrosa of graminivorous mammalia. The latter being developed from the nuclei of cells, as described in the "Physiological Anatomy," the former being analogous to the tubular lines marked *a a a a*, fig. 10, and which I argue are derived from the blood-vessels which circulated in the enamel pulp, previous to its development into osseous tissue; while the lacunæ of the human tooth originate in blood-vessels which ramify on the surface of the periosteum of the fang, and which in their appearance bear often no small resemblance to the form of the lacunæ themselves. If a horizontal section of a human tooth be made in which this hypertrophy exists, the lacunæ will be found to surround the dentine in regular layers, similar to the manner in which they surround the Haversian canals in bone, the difference being that the centre of the circle which both make is in the tooth osseous tissue, whilst in the bone it is a hollow cylinder.

1st. *On the Development of Lacunæ from Blood-vessels.*

7. In the accompanying section of the human tooth, the fang of which had become hypertrophied to such an extent that it in many places was anchylosed with the bone, a portion of which is shown in the cut (fig. 20, A), it will be seen that the branches of the lacunæ are long and anastomose with each other, and not only with each other, but with the tubuli of the dentine at one extremity of the chain, while at the opposite extremity they open upon the external surface of the tooth in connection with the periosteum: thus forming an irregu-

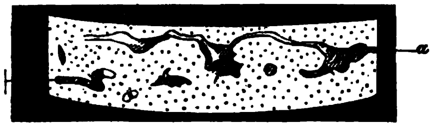
Fig. 20.



From a tooth anchylosed with bone. A, bone, being a portion of the alveolar process; B, periosteum between bone and tooth; C, hypertrophy of the fang, in which the lacunæ may be seen to inosculate with each other until they connect the dentinal tubes at one extremity with the periosteum at the opposite; D, cementum; E, dentine.

lar but connecting passage between the internal pulp of the tooth and the periosteum. This fact seems to show that the lacunæ of this peculiar tissue and the tubuli in dentine have a similar origin, for it is alien to reason to suppose that one extremity of the same passage has had its origin in a source different to that which has produced the opposite, which must be the case if this peculiar character of lacunæ be considered analogous to the lacunæ in crusta petrosa. Again: in a section of a tooth of a hare, an unity of origin between irregular lacunæ and the tubuli of dentine is shown in the fact of their existence, the former in the centre of the latter structure, where two sets of tubuli originating in different centres meet and coalesce. Whereas it having been previously shown by fig. 2, p. 328, last volume, that the blood-vessels of the dentinal pulp pass into the dentine, we may fairly infer that the blood-vessels of the periosteum of the tooth also dip into the new forming structure on the external surface of the fang, and become the medium whereby the two tissues (periosteum and bone) are held in contact. From pressure at the period of ossification these channels of circulation become atrophied, and perish from their original use, becoming incorporated with the structure in the same manner as all the other tissues which help to make the pulp from which the teeth are developed. The idea of these having been once the channels of the circulating fluid, is strengthened by observation of the form and character of the tubular lines *a a*, figs. 16 and 19, which seem to be analogous, and represent these lacunæ in the structure of the crusta petrosa of the teeth of the horse, ass, elephant, sheep (fig. 21,) &c., in which structures they appear to possess the outward form of blood-vessels so decidedly, that it would be difficult, I think, to assign them any other origin, between which and the lacunæ of the human tooth the larger channels (marked *o o o*, fig. 22) seem to be intermediate.

FIG. 24



Crusta petrosa, from sheep.

If, as a profound physiologist[*] has said when writing upon the subject of the development of the teeth, "that parts or organs which have once acted an important part, however atrophied they may afterwards become, never altogether disappear as long as they do not interfere with other parts or functions," be correct, it were strange, indeed, if in the ossification of a substance the whole pulp were converted into bone, including both the cell walls and areolar tissue, the blood-vessels only being excepted, or if they become incorporated within the developed tissues, they should leave not a trace behind to represent the position which they once occupied in the pulp of which they were so conspicuous, and formed the most important office: yet this would be the case in the crusta petrosa if the tubuli (*a a a*, fig. 19) which ramify among the cells, without having any connection with them, have not that origin. I think that with regard to these latter Mr. Nasmyth must have inferred the same, when he compared them to the Haversian canals in bone, although I feel him to be in error when he asserts that they are filled with ossific matter.[*]

But to whatever origin observation of physiologists may determine this source, the lacunæ, must, I think, be attributed to the same, seeing that they resemble each other in their opening upon the external surface of the structure; and if these latter be considered the same in their origin as the former, of which myself I think there is little doubt, we are led by degrees to infer that the canaliculi leading out of these must be so also; if the canaliculi, then the lacunæ, and thus we see that the lacunæ, canaliculi, and tubuli, in the human teeth, are not only connected in their developed structure, but are derived from a unity of source; the difference of character depends upon the different form of the original vessels; the walls of the original blood-vessels having collapsed become ossified, and constitute the parietes of the lacunæ. If we examine their position in relation to the original development of the structure in which they exist, whether it be bone or teeth, we find their presence increase in the older growths: the external plates of the maxillæ (alveolar processes) are almost wholly composed of them, and throughout the entire system they appear to be formed only where membrane has previously existed, such as on the outer circumference of all bones, and the inner surfaces of the Haversian canals; in fact, in all bone which dates its origin posterior to that which is first developed from temporary cartilage. The membrane by repeated ossification diminishes in bone the area of the Haversian canals, and in teeth increases the bulk of this osseous deposit, falsely called cementum by authors, and so in both alike increase the density of the structure, the process possessing some analogy to the manner in which the shells of bivalve mollusca increase in thickness.

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[*] Professor Goodsir.

[*] Researches on the Development, Structure, and Diseases of the Teeth, p. 81.

2d. *On the Development of Lacunæ from the Nuclei of Secreting Cells.*

8. The next kind of lacunæ in teeth to which I refer is to be found in the crusta petrosa only,—that is, in that portion of the tooth which originates in an arrest of the development of the enamel pulp; these lacunæ are small and unattached: each one, unlike those already described as being found in the osseous deposit on the fangs of the human tooth, has no connection with any other: the canaliculi which there extend from from one to another are here only represented occasionally by sharp points, giving to the cells an angular and somewhat irregular form: neither do the lacunæ invariably bear any relation in position to one another, but are multitudinously and irregularly scattered throughout the whole structure. These lacunæ, instead of being developed from the same source as those already described, are the nuclei of the undeveloped secreting cells of the enamel pulp. This is proved almost to demonstration in the section of the tooth of a horse, from which fig. 16 is taken, where, in immediate contact with the enamel, the lacunæ may be seen to occupy the centre of each cell, which retains the circular form of a filled elastic vesicle, not made polygonal by mutual compression of others in contact with its walls; these cells floated originally in the surrounding matrix irregularly until they approximate towards their normal development, when they subdivide into the secreting cells, of which, when charged with calcareous salts, the enamel is built up.

I am also inclined to believe, though it can scarcely be received as more than speculation, that sometimes instead of being the nuclei of cells they are the remains of the cells themselves, the walls of which have fallen together in a collapsed condition by the loss of its fluid contents consequent upon the ossification of the structure. I am induced to imagine this from occasionally observing some larger than common, evidently containing nuclei, as well as others assuming an irregular form.

On the Dissimilarity of Crusta Petrosa and Cementum to Bone.

9. We see, by observation of its growth, the curious circumstance that crusta petrosa, the tissue most resembling bone in the structure of the tooth, bears no affinity to it in the manner of its development, while on the other hand the hypertrophy of the fang of human teeth, the lacunæ of which bear but little resemblance to those in bone, is built up in a manner resembling the bone produced in an interstitial manner.

On the Office attributable to the Lacunæ in Bone, &c., &c.

10. I am not aware of ever having read that any distinct use is attributed to the cavities in bone or teeth termed lacunæ; but it appears to me that they are valuable as reservoirs for the purpose of holding moisture in the centre of the structure, and to this end they seem admirably adapted, and give an important degree of strength and elasticity to the structure, without adding materially to the weight thereof. This is easily shown to be the case by the simple experiment, that if a thin section of bone or ivory be made it will be found to be stiff or brittle, but if saturated in water it will become tough and pliant. Here again may be observed the analogy in the uses of the tubuli in dentine and the lacunæ in osseous structure, since we find that a tooth while in the mouth

is always saturated with moisture, which it loses upon being removed from its socket, together with its toughness.* It is probably owing to this circumstance, that the extreme points of the tusks of the elephant and other animals are almost invariably cracked; the great distance which it is from the central pulp, through which alone can a permanent supply of moisture be kept up, together with the great heat of the tropical sun, assisting to preclude it from being kept in a sufficiently saturated condition to render it exempt from such accidents.

I am aware that another office has been assigned to the tubuli of dentine, by Professor Owen, the greatest authority upon the subject; which is, that through them are conveyed a repairing secretion, in order to rebuild any ravages in its structure which disease or accident may have caused. But my own observations tend to support the more extended researches of Mr. Nasmyth, that the ingenious speculation of the former physiologist is without foundation, and the repairing structure, the so-called secondary dentine, is never to be met with, external to a layer of normally developed dentine, and that every case of this so-called structure is invariably the result of a diseased action in the pulp, and is developed, I presume, in a manner not unlike that which I have endeavoured to describe in the formation of crusta petrosa,—viz., that ossification of the pulp is the result of its losing its dependence upon external sources; it becomes atrophied: consequent upon which the moisture which held the salts in solution escape, and if much be present solidification is the result; but if less, then decomposition follows as a matter of sequence.

That ossification takes place with a loss of substance is indeed very evident by the universally observed fact, that whenever the pulp ossifies it decreases in bulk, and invariably exists more or less unattached from the walls of the pulp cavity, and this although the pulp and dentine are the same, one being the developed portion of the other.

The use above assumed for the lacunæ in bone and teeth in animals may in some measure account for and receive support from the fact, that bones in aged persons contain more earth, and become more brittle than they do in youth; that the fluid occupying these hollows in the bone gradually deposit within them the salts which it holds in solution, and thus slowly but surely fill up the cavities, and so preclude the admission of moisture.

TRANSUDATION OF COLOURING MATTER THROUGH THE SKIN.

Dr. Lucien Papillaud relates the following extraordinary case. A mulatto girl, aged fifteen years, after having menstruated regularly for two years, noticed that the catamenia were less in quantity and lasted a shorter time. Epistaxis occurred frequently, and bleeding, uniformly from the left ear. This was accompanied by paleness of the skin and mucous membranes, loss of appetite, and general emaciation. This state continued for ten months, when she consulted a medical man, who prescribed full doses of colocynth, a mixture of an alkaline carbonate and cherry laurel water, and a liniment for the thyroid gland, which was hypertrophied. Costiveness and deficient secretion of urine occurred subsequently. At one time she passed sixteen days without an evacuation of the bowels, and four days without voiding urine. At this period the skin presented a bluish violent tint on the forehead, temples, nose, and orbital regions; this discolouration, which resembled an ecchymosis, supervened on epistaxis. The tongue was red at its borders, and furred in the centre, the pulse irregular and frequent: she suffered occasionally from palpitation; the heart's sounds were normal. An obstinate dry cough accompanied the physical signs of incipient phthisis; the abdominal and thoracic parietes were painful to the touch, the left foot œdematous. The blue colour of the skin extended to the face, neck, anterior surface of the thorax, and appeared on the left leg. The discolouration could be wiped off the surface of the skin, but reappeared spontaneously within forty-eight hours. The possibility of imposture was suggested, but upon the closest and prolonged watching nothing of the kind could be detected.

Aperients were prescribed. A bath of dilute hydrochloric acid was employed, from the date of the employment of which the discolouration disappeared, and did not return. Turpentine, and tincture of nux vomica, were then given. Iron was subsequently administered, during the use of which the blue tint once occurred on the tongue. The patient was soon afterwards lost sight of.—*Gazette Médicale.* X

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* It is well known to dentists that human teeth when long exposed to the air become worthless, from their extreme liability to split when working.

MEDICAL GAZETTE.

FRIDAY, JANUARY 10, 1851.

In our last number we laid before our readers a tabulated statement of the annual admissions and deaths in the ten metropolitan hospitals. Excluding St. Thomas's, the only hospital in which, so far as we can ascertain, the same patient may, according to circumstances, be enumerated as two, three, or four patients per annum, the highest rate of mortality is at University College Hospital, being 11·2 per cent. per annum of the inmates; while the lowest rate is at the London Hospital, where it does not exceed 6·7 per cent. It is only fair to state, however, *in limine*, that although these averages are framed on a like basis in respect to *time*,—namely, *four years*, they are widely different as to the *numbers* from which they are derived. Thus the London Hospital average is deduced from 16,526 admissions; while that of University College is based on not many more than one-third of this number,—namely, 5784 in-patients. Differences in the number of patients admitted will not, however, explain the variations in the relative mortality of our great metropolitan institutions. Thus at St. Bartholomew's the admissions are more numerous than those at Guy's by nearly 2000 per annum; but the annual deaths are nearly three and a half per cent. greater at the latter than at the former hospital. The deaths at Guy's and at King's College Hospitals are annually represented by the same amount,—namely, ten per cent.; but the annual admissions at Guy's are 3853, to only 1262 at King's College. Mr. T. B. Curling, who has given great attention to the subject of hospital statistics, remarks, in an interesting paper published some years since, that the rate of mortality in the London hospitals bears a sort of inverse proportion to the number of patients annually admitted,[*]—*i. e.*, the larger the number of patients admitted, the lower the general rate of mortality. Writing on this subject in 1839, and comparing the mortality of three of the hospitals, he says: "At St. Bartholomew's, where the number of patients admitted during the year amounted to 5164, the deaths are 7·6 per cent.: at St. Thomas's, where the number admitted is 3000, the deaths are 8·7 per cent.; whilst at St. George's the cases admitted are 2133, and the deaths are 10·6 per cent. At the larger hospitals of the metropolis a greater proportion of chronic diseases and slight affections are admitted than at the smaller."

There is some truth in this observation, and we believe that it is borne out by the practice at the University and King's Colleges, where cases are closely scrutinised and selected for the most part according to their severity. At Guy's Hospital, although a much larger institution, the same practice is carried out. As a general rule cases are admitted according to their urgency: hence probably the mortality is as high as in the two smaller hospitals abovementioned, although the admissions exceed by more than a thousand cases per annum the united admissions at King's and University College Hospitals. St. Bartholomew's and the London Hospitals do not, however, conform to this supposed rule: the admissions into the former exceed by 1650 per annum those of the London Hospital,—and, according to the inference above drawn, the deaths should be fewer in number at St. Bartholomew's; but they are actually more than one per cent. higher.

In some hospitals cases of *phthisis*

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[*] Farr's British Medical Almanack, 1838-9, p. 51.

and *fever* are excluded: in others there is a ward specially set apart for carcinomatous disease, as in the Middlesex. This kind of selection or rejection must of course exert a certain influence over the general mortality; and in instituting a comparison, therefore, between the unequal rates, these facts should be borne in mind.

The influence of the number of *accidents* on the rate of mortality would appear to afford a solution of the difficulty; but, strangely enough, the most conflicting opinions are entertained, even by men of good judgment, on this branch of the question. The greater number of our readers will probably concur in the statement made in a former article,* that "a hospital situated in the vicinity of places where accidents frequently occur may have a higher rate of mortality than one in the heart of the metropolis, merely as a result of its local position." The gravity or severity of the accidents, as well as the mere numbers admitted, must, however, be taken into consideration, since the great mortality from a few may be more than counterbalanced by recovery from a large number. This actually occurs at the London Hospital, which presents a striking exception to the remark above made. This institution is in the immediate vicinity of the four great docks, and of numerous manufactories: it is in the midst of a working population, and near to a railway which has acquired a fatal celebrity for the accidents that occur on it. Under these circumstrnces, it will not surprise our readers to learn that the London Hospital is truly the "Accident Hospital" of this metropolis: it receives yearly within its walls many more cases of accident than of disease; and yet, although, with the exception of St. Bartholomew's, it receives annually a greater number of patients than any hospital in London, its annual rate of mortality is lower than that of any other institution. To what can this extraordinary difference be ascribed? Mr. Curling, who has closely examined this subject, states in the paper already referred to that, from the calculations then made, the mortality from accidents formed 5·2 per cent. of the accidents admitted, while the mortality from disease was nearly thrice as great, amounting to 14·7 per cent. If we pass to a more recent period, the deaths from accident have become even lowered, amounting in 1844, 1847, and 1848, as indicated by a table elsewhere published,* to little more than 3 per cent., while the fatal cases of disease exceeded 6 per cent., or were more than double. From these considerations, Mr. Curling has adopted the opinion "that a *large proportion of accidents tends to lower the rate of mortality in hospitals*; and that such is the principal reason for the low rate of the London Hospital." There can be no doubt that this proposition is established so far as the London Hospital is concerned; but the question is—Can the inference be equally applicable to other metropolitan hospitals? The correctness of the view adopted by Mr. Curling must of course be established or refuted by an appeal to facts. If found by experience to be correct, it will overthrow the popular opinion on this subject—namely, that the deaths from accidents are proportionably much more numerous than those from disease.

We have in vain endeavoured to procure the statistical information for the solution of this question. In some institutions there is no separate record of accidents; in others, no separate record of deaths from accidents: hence we are reduced to the necessity of comparing facts as observed at two institutions only, which receive nearly the same number of inmates per annum—namely, the London Hospital, and Guy's Hospital. Guy's Hospital, like the London, is in a sort of focus for accidents: it adjoins the river and the shipping, where numerous accidents occur: it is in the midst of a manufacturing and working population, and is contiguous to the termini of all the branches of the South-eastern and South-western Railways. The adjoining hospital of St. Thomas's draws off many of these accidents; but nevertheless, there is room for the reception of a large proportion at Guy's, and they are freely admitted at all hours of the day and night without letter or ticket. We shall now test this question of the influence of deaths from accident on general mortality by comparing the results observed at these two large hospitals.

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* See last volume, p. 1071.

* See our number for December 20, p. 1032. It is necessary, in order to prevent a misunderstanding of this table, to state that the percentage of deaths from accident must not be deducted from that occurring from disease. The deaths from accident are calculated from the admitted accidents, and those from disease are separately calculated from the admitted cases of disease only.

The London Hospital.

The Total Admissions—Number of Accidents and Deaths from Accidents during Four Years.

Years.	Total Admissions In-Patients.	Accidents admitted.	Deaths from Accident.		Deaths per Cent. from Accident.
1846	4092	2358	108	=	4·57
1847	4159	2396	73	=	3·
1848	4185	2442	89	=	3·6
1849	4090	2370	99	=	4·1
In four years	16526	9566	369	=	3·8

It will be perceived that during the period of *four years* there was a remarkable uniformity in the number of accidents admitted annually, and that the average number of deaths on nearly ten thousand accidents has not reached four per cent.!

Another fact worthy of notice is the very large proportion of accidents received into this Institution. Thus, out of 16526 admissions during the quadrennial period, 9566 were accidents. The accidents, therefore, constitute 57·8 per cent., or nearly *six-tenths* of all the cases admitted within the walls.

On contrasting the mortality from accidents with that from disease, we find the following result:—

There were admitted into this hospital during the same period 6960 cases of disease, and among these there were 728 deaths; which gives a proportion of 10·4 per cent. This increased mortality refers to only four-tenths of the admissions; and as the deaths from accident do not reach even 4 per cent., it is clear that the large number of accidents received into the Institution tends to lower considerably the general mortality among the inmates. Our readers will probably inquire what kind of accidents can these be, when out of *twenty-five* received, there is only *one* death? On turning to the published tables, we find that *burns and scalds* form one of the most fatal items; while under the head of *contusions*, which form more than *one-third* of the whole number of accidents, the deaths are comparatively few.

Admissions and Deaths from Contusions in the London Hospital.

	Admitted.	Deaths.
1846	804	16
1847	863	3
1848	862	6
1849	636	9
	3165	34

Thus, out of this large number of 3165 accidents, amounting to *one-third* of the whole number admitted in four years, the deaths were only 34, or about *one per cent.* Such a small mortality upon such a large proportion of accidents would, of course, have the effect of lowering the ratio of deaths from accidents and among the inmates generally.

We shall now turn to Guy's Hospital, the only other institution from which we have been able to procure accurate returns of the annual number of accidents admitted and the deaths arising from them.

Guy's Hospital.

The Total Admissions—Number of Accidents and Deaths from Accidents during a Period of Four Years.

Years.	Total Admissions In-Patients.	Accidents admitted.	Deaths from Accident.		Deaths per Cent. from Accident.
1846	3807	598	91	=	15·2
1847	3789	592	69	=	11·68
1848	4044	576	46	=	7·7
1849	3772	564	66	=	11·7
	1541	2330	272	=	11.67

From this table, we find that, as at the London Hospital, there is great uniformity in the annual admissions under the designation of "*accidents;*" but while the total admissions of in-patients into the two Institutions are only 1-16th greater at the London Hospital than at Guy's during a period of four years, the admissions under accidents are four times as numerous at the London as at Guy's Hospital. In fact, the "contusions" alone at the London, are one-fourth more numerous than all the accidents annually received as such into the wards of Guy's. The accidents received into this hospital, instead of forming 57·8 per cent., constitute only 15 per cent. of the annual admissions.

The mortality from accident, compared with that from disease, contrary to what has been observed at the London Hospital, is remarkably high. In 1846 it amounted to as much as 15 per cent. of all the accidents; and in 1848 (the minimum) it was nearly double that of the London Hospital accident mortality—namely, 7·7 per cent. The quadrennial average may be taken at 11·67 per cent. During the four years there were admitted into Guy's Hospital, as cases of disease, 13082 patients, and there were 1290 deaths, which gives a proportion of only 9·8, or less than 10 per cent.

It appears from these facts that the mortality of the two hospitals may be thus contrasted:

	Deaths per cent. from disease.	Deaths per cent. from accidents.
London Hospital	10·4	3.8
Guy's Hospital	9·8	11·67

The annual rate of mortality, including accidents, is, according to the table elsewhere presented,* for the

	Deaths per cent. per annum on all admissions.
London Hospital	6·7
Guy's Hospital	10·

The period from which these results are deduced is the same, and the number of patients do not widely differ, being 16,526 at the London, to 15,412 at Guy's Hospital.

There is no enumeration of special accidents at Guy's as at the London hospitals; but judging by the smaller number received, and the larger number of deaths at Guy's Hospital, the class of cases designated Accidents must differ very widely at the two institutions. Nothing short of this will explain the very great difference in the mortality. There is another class of cases which would tend to increase the mortality from accidents at Guy's, and *pari passû* the general mortality, but that the facts could not be obtained with sufficient accuracy for enumeration. Under the head of accidents at the London, *Hernia* is included. Of this there were in the four years 184 cases, and 33 deaths, thus making a mortality of 18 per cent. In the Guy's returns, cases of hernia are not enumerated, or it is probable the mortality (under the head of accident-mortality) would have been greatly increased. If this item, which forms one of the most fatal in the London Hospital list, had been introduced, the difference between the two hospitals in respect to the influence of accidents on mortality, would have been still more remarkable. As the case, stands the London Hospital presents the extremes of a mortality of only *one* per cent. on 3,165 cases (*Contusions*), and of a mortality of so much as 18 per cent. on the small number of 184 cases (*Hernia*). The average mortality of 3·8 per cent on accidents, may be regarded as a balance between these limits.

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* See our last number, page 19.

The facts which we have here set before our readers in respect to the only two metropolitan hospitals from which authentic returns could be obtained, appears to show conclusively, that the mortality from disease differs but little in the two institutions, being less at Guy's than at the London, while the mortality from accidents is considerably greater at Guy's Hospital. The cases of disease are, it is true, more numerous at Guy's, while the cases of accident preponderate at the London; but it must be quite obvious that while the mortality is thereby greatly lowered at the London, it is considerably increased at Guy's, not by disease, but by accident. This lowering of the mortality in one case, and the apparent increase of it in the other, are fully explained by the fact, that *one third* of all the accidents at the London are of so slight a character, that the deaths do not amount to more than *one per cent.*

It is true that the calculations are based upon 2,330 accidents at Guy's, and 9,566 accidents at the London; and it is possible that upon a larger number of cases the difference in the rate of mortality from accident might not be so great as it now appears to be. We do not think, however, the results would be affected, so much by the number, as by the nature of the accidents. In any hospital whatever, in which 800 accidents per annum are received, of which only *eight* prove fatal, not only must the accident-mortality, but the general mortality be lowered.

In comparing, therefore, the mortality of hospitals, we must revert to our original position; the *class of cases* received, must materially affect the results; and the rate of mortality at no two institutions can be correctly compared, unless data are forthcoming on this point. We regret that these data cannot be procured from other institutions, as they would, no doubt, fully and satisfactorily explain the discrepancies which exist in the figures representing the general mortality of the London hospitals.

In the meantime, it is clear from the contrast here presented by two great institutions, that no general rule can be laid down respecting the influence produced on the deaths by the number of accidents received. In one hospital they may add to, and in another diminish, the rate of mortality; in no two institutions could they be strictly compared, because inappreciable circumstances connected with the patients themselves,—*e. g.*, age, sex, and bodily health, must always more or less affect the chances of recovery.

Reviews.

1. *A Universal Formulary; containing the Methods of Preparing and Administering Officinal and other Medicines: the whole adapted to Physicians and Pharmaceutists.* By R. Eglesfeld Griffith, M.D. 8vo. pp. 567. Philadelphia: Lea and Blanchard. London: Delf. Edinburgh: Forbes and Wilson. 1850.
2. *A Manual of Materia Medica, Pharmacology, Toxicology, &c.* By Edward Chapman, M.D., of Edinburgh. Small 8vo. pp. 415. Edinburgh: Maclachlan. London: Simpkin and Co. Dublin: Hodges and Smith. 1850.
3. *The Pharmacopœia of the King and Queen's College of Physicians in Ireland,* M.D.CCC.L. 8vo. pp. 191. Dublin: Hodges and Smith. 1850.

Compilations of a certain character are among the most valuable contributions to medical literature: such are those which, collecting the scattered facts of daily requirement, render them equally available to the literary and to the practical man. Pre-eminent among the best and most useful compilations of the present day will be found the work before us, which can have been produced only at a very great cost of thought and labour. A short description will suffice to show that we do not put too high an estimate on this work.

In the "Introduction" we find what is indispensable to the perusal of foreign medical books—viz., the variations in British and foreign weights and measures. The British Avoirdupois and Troy weights are arranged in a tabular form from the drachm to the hundredweight, so that the difference of any two quantities within this range may be readily ascertained. The French decimal system of weights and measures, with the English equivalents, is stated. The value of the pound, ounce, drachm, scruple, and grain, according to the different systems of weights in various countries of Europe, is given in a tabular form. Dr. Griffith adds also some very useful practical remarks on the mode of measuring by spoonfuls and drops, which show the irregularity and uncertainty of such measurements. A table accompanies and illustrates these observations. Thus it is shown that in twenty minims of sulphuric acid there will be sixty drops; while in twenty drops there will be only thirteen minims. In twenty minims of water there will be fifteen drops; while in twenty drops there will be twenty-six minims. The standard of measure of liquids in all countries in Europe is also added.

A section on specific gravity and the several means that have been adopted for its estimation, with several tables, form a very instructive and useful addition, as does the comparison of different thermometrical scales. The Introduction contains, besides a very full list of the principal abbreviations occurring in pharmaceutical formulæ, a section on the management of the sick-room, on the doses of medicines, and their therapeutical classification.

Of the body of the work itself we have but little to say: words are superfluous where a few extracts will represent its true value. The following, then, which comes first to hand, exhibits the manner of treating each article:—

"ABSINTHIUM.

"WORMWOOD.

"This name is applied to several species of *Artemisia*, all, however, possessing the same properties. That recognized in the U.S. Pharmacopœia, and most generally employed, is *A. absinthium*, a native of Europe, and cultivated in our gardens.

"*Sex. Syst.*, Synges super. *Nat Syst.* Asteraceæ.

"Linn. Sp. Pl. 1188. Griffith Med. Bot. 405.

"The parts used are the tops or extremities of the branches. These have a grayish-white colour, a soft, silky feel, a fragrant odour, and a very bitter taste. They impart their properties to water or alcohol.

"Wormwood has been employed as a stimulant tonic in various forms of dyspepsia, in amenorrhœa, chronic leucorrhœa, gout, verminose affections, &c. It is given in a variety of forms.

"Infusion of Wormwood.

"℞. Wormwood, one ounce;
Boiling Water, one pint;
Infuse. Dose, one to two fluid-ounces.
"Brande."

In a similar manner follow ten preparations of wormwood.

We have here taken the first article that we find in the alphabetical order which is followed, in order to show the manner in which the author treats his subject, which, it will be seen, is sufficiently full to embrace its chief points and to acknowledge the authorities and sources of information.

The extent of this work may be estimated from the fact that the general index covers forty-seven pages of double columns, each containing seventy-eight lines, and that consequently (including repetitions) there are seven thousand three hundred and seventy-two subjects therein contained.

At the end of the volume we find several sections conveying useful information—*e. g.* Dietetic preparations for the sick; a list of incompatibles; a posological table of the most important medicines; a table of pharmaceutical names which differ in the United States, London, Edinburgh, and Dublin Pharmacopœias; directions for officinal preparations, baths, &c.; a brief table of poisons, their symptoms and treatment; an index of diseases and their remedies, numbered with reference to the finding the latter in this volume; an index of the pharmaceutical and botanical names occurring throughout the work; and, lastly, the general index already mentioned.

We are not cognizant of the existence of a parallel work. Its value will be apparent to our readers from the sketch of its contents above given. We strongly commend it to all who are engaged either in practical medicine, or more exclusively with its literature.

2. Dr. Chapman's volume comes before us with no other pretensions than that of being a Manual and Compendium of Materia Medica. That it has well-founded claims to this laudable and good character we take upon ourselves to affirm. Each article of the Materia Medica is treated of under its physical and chemical attributes, its medicinal use, its doses, and various preparations. All these topics are briefly, although sufficiently fully discussed, to constitute this manual a very serviceable text-book. In some respects it may be compared with Dr. A. T. Thomson's "Conspectus," but it possesses several points of superiority, among which we may enumerate a fuller account of the natural history and physical properties of each substance, more extended medical directions, an Appendix, containing a short discription of families wherein medicinal plants abound, and a section on prescribing; and last, not least, it is printed in a larger and clearer type, forming a more convenient volume for ready consultation.

Although ostensibly intended for students, it is virtually adapted to the every-day wants of the practitioner, who will do well to possess himself of this little volume.

3. A new edition of the Pharmacopœia of the College of Physicians of Ireland, coming before us, after an interval of twenty-four years—and under the sanction of a President, with no less a reputation than that of Dr. Stokes,—constitutes a work to be received with some satisfaction, and to be regarded as possessing the strongest guarantee of its correctness.and real utility.

We shall point out those features wherein it differs from its predecessors, and express our opinions upon the changes which have been therein adopted.

First: the classification has been altered, the entire Materia Medica being arranged alphabetically, under thirty-seven sections,—*e. g.*, Acetates, Acids, Alkaloids and their salts, Arsenites, Carbonates, &c. &c. The class *Metallica* of the former edition is suppressed, and its preparations distributed under their respective sections,—*e. g.*, acetates, arsenites, &c. &c., the method being made to rest upon the electro-negative, rather than upon the electro-positive constituent, in conformity with the most approved classification of the objects of the mineral kingdom.

The uniformity, however, of this classification is broken by the position assigned to the salts of vegetable alkaloids as a distinct class, for the sole reason that they are not metallic oxides, which to us does not appear a sufficient reason for the want of uniformity thereby introduced.

The alphabetical order has been further interrupted by the addition of *Essences* to the class of *Spirits*; this we are informed would not have occurred had the introduction of the former been decided upon sufficiently soon to enable the *essences* to be put in their proper place. For aught that we can perceive the latter title might have been omitted altogether, and their preparations included under the class *Spirits*, as they consist merely of the dilution of essential oils by alcohol, and are in truth the representatives of the old class of distilled spirits.

With reference to those articles of the Materia Medica which are newly introduced into this Pharmacopœia, we quote the following passage from the preface:—

> "The medicinal agents, for the preparation of which formulæ appear for the first time in the present edition, amount to a considerable number, and yet there are many, of undoubted efficacy, which the list does not comprehend. From a field so vast, a selection had to be made, and such were preferred whose therapeutic virtues had been most satisfactorily established, and which could be obtained by processes the merit of which had been tested by actual experiment."

It may admit of doubt whether the therapeutic virtues of the *valerianates.*—have sufficiently active properties to find a place in the Materia Medica.

We observe that the proportion of arsenious acid ordered for the preparation of Liq. arsenalis is increased by one-third over the proportion ordered in the last edition. This should be impressed upon those who prescribe under the authority of this Pharmacapœia.

We concur in the opinion of the College that the new remedies introduced in the present edition are valuable additions, and that the processes recommended for the preparation of the various articles are as much simplified as possible, and calculated to obtain the end intended,—viz., to enable the apothecary to undertake the preparation of his own medicines, thus becoming independent of the manufacturing chemist. If the prescription of a College could attain this object, the Pharmacopœia before us would secure its attainment; but the wants and usages of society, have rendered the mere *apothecary* obsolete. The druggist has in two many instances presumed to take his place. The practitioner has in general too little time for the preparation of the medicines he prescribes or administers. It would be wiser, then, if, instead of endeavouring to revive a defunct order, the Colleges would assume the superintendence of any class of persons who undertake either the preparation or sale of medicines.

We feel that some inconsistency has been exhibited in the application of Latin titles to each preparation, while the formula and directions are given in English. Either one or other language should have been followed throughout, to avoid the substitution of Latin in one place for the English by which the same object is expressed in another part perhaps of the same formula.

To some minds it may not appear equally desirable as it has to the College, to have returned to the obsolete names, Calomelas, Corrosivum sublimatum, Ferrioxydum magneticum, rubrum, nigrum, &c. &c. Admitting that there are doubts as to the actual state of chemical combination of the constituents of any of these substances it is generally expected that a Pharmacopœia of a Royal College of Physicians should represent the present state of chemical science.

A more serious objection, however, exists in an error of an opposite character committed by the Irish College, by which Troy weight is superseded by the avoirdupois. This innovation has some apparent advantage in the substitution of an uniform standard of weight for the purchase and for the dispensing of drugs, as also in the similarity of division of the fluid ounce and ounce by weight. The objections, ever, to this change are but lightly regarded by the College. Amongst these is the fact that the drachm, scruple, and grain are not of the same weight under the two systems, and that in prescribing, the dose consequently will vary. Thus one ounce Troy is equal only to 1 oz. 42·5 gr. avoirdupois; one drachm avoirdupois is equal only to 27·34375 grains Troy, instead of 60 grains. The avoirdupois ounce is divided into sixteen drachms, while the division of the ounce instituted by the College is into eight drachms—an inconvenience which according to the College does not admit of being removed, since the division of the ounce "was indispensable, in order that the drachm should retain nearly its original pharmaceutical value, and that drachm measures should be convertible into weights by multiplying the specific gravity." That this innovation, however, is attended with great danger in dispensing, is more probable than the College seem willing to acknowledge; and it is evident from the step they have been obliged to take in procuring the manufacture of their own particular standard weights by Mr.

Donovan, of Dublin, well known for his scientific attainments, and who has long made this new division of weights an object of his attention.

It is much to be regretted that the endless diversity of weights and measures which already exists in European countries should have been further added to. The Irish College might have earned brighter laurels by lending their influence to the establishment of an universal and uniform European system, for which the advancement and increased international intercourse of the nineteenth century offers every facility.

We have very freely criticised this new edition of the Dublin Pharmacopœia, which, on the whole, we do not regard as being very greatly in advance of previous editions of the same work, not from captious motives, but because of the weight it must necessarily carry as the express result of three years' serious deliberation and experiments, by a College in a city far renowned for its medical and surgical skill and science. Where there are great power and authority the more closely must these be watched, in order that they may be exerted for good, and be attended with benefit to others.

[There is doubtless considerable difficulty attending, and great judgment required in, the admission of new remedies into a new edition of a Pharmacopœia. Many remedies enjoy a very extensive reputation for some time, and then suddenly or gradually disappear from public notice: on the other hand, there are, perhaps, many among the latest introduced which will maintain or increase their reputation, and to exclude these from the Materia Medica will in a very few years impart to the Pharmacopœia the character of deficiency. We would respectfully suggest that in future editions of the Pharmacopœias of the several Colleges, an Appendix be added, containing an enumeration of the most recent and best accredited additions to the Materia Medica, with a brief history of their alleged properties and uses, and the authorities by whom recommended.]

Epidemics Examined and Explained; or, Living Germs proved by analogy to be a Source of Disease. By John Grove, M.R.C.S.L., author of "Sulphur as a Remedy in Epidemic Cholera." 8vo. pp. 192. London: Ridgway. 1850.

Mr. Grove's treatise commences with the question, "Is it probable that epidemic, endemic, and infectious diseases, depend upon vital germs for their manifestation?" This possibility the author infers from the almost illimitable powers of reproduction manifested by living germs. In support of his inference the author quotes from various sources a great number of facts illustrating the phenomena of reproduction: he cites the histories of the epidemics of past ages, and uses certain passages in the Book of Deuteronomy to prove the development of organic germs.

Mr. Grove further shows the unreasonableness of the chemical theories of contagious and epidemic diseases, as also of the animalcular theory; and he follows up his confutation of these hypotheses by endeavouring to draw evidence of the probability of the existence of living germs of disease, from the facts which he has previously related, and offers conjectures on the nature of morbid poisons, from their effects on the body, and from the effects of remedial agents.

Granting to Mr. Grove that his book manifests considerable erudition, and exhibits a laborious investigation of the works treating of epidemics, the result, however, is merely an interesting and plausible hypothesis which it would be a misapplication of terms to designate a theory, since the author nowhere clearly indicates, even remotely, the nature of these germs, or distinctly attempts a demonstration of their physical existence.

Mr. Grove in the next place draws an analogy between the spread of plants and that of diseases, from their early geological history, from their dispersion by means of the easy transmission of their seeds; and he thence draws an inference of similar modes of transmission of disease; at the same time that an analogy is established between the period of latency in both cases.

Mr. Grove then treats of the relations between epidemic and endemic diseases, in speaking of which the history of the

"Eclair fever" is introduced, and the conclusion arrived at, that infection by reproduction of the disease is a proof of the agency of living germs.

We may take this opportunity of pointing out an error into which Mr. Grove (in common with many other writers) has fallen, when adducing the expressions referring to natural phenomena contained in the sacred Scriptures as evidence in support of particular opinions in which the nature of those phenomena is involved. The meaning of any word in the sacred writings is a simple fact, and as such is to be determined by the *usus loquendi* of the people to whom or of whom the Scripture speaks. The vernacular or popular expression is always employed by the sacred writers; and their meaning must therefore be deduced from the nature of the subject and its historical circumstances, rather than from any analogy they may appear to have with facts or opinions resulting from the progress of the physical sciences. It is the neglect of this fundamental rule that has frequently led to the erroneous interpretation both of Scripture and of Nature, and has improperly tended to throw discredit upon the former.

The Historical Relations of Ancient Hindu with Greek Medicine, in connection with the Study of Modern Medical Science in India; being a General Introductory Lecture, delivered June* 1850, *at the Calcutta Medical College. By ALLAN WEBB, M.D., &c. Pamphlet, 8vo. pp. 34. Calcutta. 1850.

IN this lecture Dr. Webb traces, through the several branches of medical science, as expounded in the writings of the ancient Hindu and Greek physicians, a far closer resemblance than we were prepared to expect, not forgetting at the same time the close intercourse which existed at times between these people: it approaches, indeed, in some parts, as nearly to identity as the astronomical system of the ancient Hindoos did to that of Plato The elementary theory of Hippocrates coincided with that of the Hindoos: the views of both on disease, and on the humors of the body—their physiology and their pathology—their general doctrines in reference to all allied subjects—present striking features of resemblance. Dr. Webb observes with reference to this fact:—

> "When we remember that Pythagoras introduced Brahminical intstitutions into Greece—that he, as well as Plato, believed in the transmigration of souls—that Hindoos never travelled, but Greeks did—we can have but very little doubt that India was the source whence the Greeks derived their systems of philosophy and of medicine. The analogy between the Greek and Hindoo systems of medicine is certainly much too close to be the result of accident."

We could quote numerous passages which would show this analogy, but we refer our readers to the pamphlet itself, in the perusal of which they will be edified and interested.

Besides the consideration of these topics, this lecture contains an address to the native students, which we trust was not delivered in vain. Dr. Webb remarks to them:

> "There are perhaps no medical students at this moment in the world to whom such great privileges are so fully and freely given, of mere sovereign bounty, as those which you receive at the hand of Government. . . . . Here are no fees paid!"

Certainly these students have advantages which no others enjoy!

Whatever may be the ethical determination in the question of the abstract justice of the British occupation of Indian territory, the blessings which British rule has so freely dispensed have assuredly given its people little room to regret the removal of their native princes. Among these we may point to the medical institutions of India as among the proudest of those monuments of the liberality of a generous nation; albeit that nation occupies the odious position of conqueror!

A Treatise on Baths; including Cold, Sea, Warm, Hot, Vapour, Gas, and Mud Baths: also on the Watery Regimen, Hydropathy, and Pulmonary Inhalation: with a Description of Bathing in Ancient and Modern Times. By JOHN BELL, M.D., Member of the American Medical Association, &c., &c. 4to. pp. 658. Philadelphia. 1850.

THE title-page of this work may almost serve for its table of contents. It is, however, too full of interesting matter to be dismissed without a more extended summary, although from its character, as a compilation, we do not intend to borrow from its pages.

The work opens with some observations on the neglect of bathing in England and the United States, an abstract of the anatomy and physiology of the skin, and its preservation in a healthy state. These are followed by an historical sketch of the baths of ancient Greece and Rome, of the modern European baths,—*e, g.*, France, Germany, Italy, Russia, and England; of oriental bathing,—*e. g.*, Turkish, Persian, and Egyptian; of the East Indian, and native American baths.

We next meet with an account of various kinds of baths, and the rules for their use; the several forms of water regimen, and water dressing; the physiological properties of water; its impurities; the different processes in hydropathy; sea bathing, with rules for its employment: warm bathing, and the diseases in which it is found serviceable; vapour baths, natural and medicated; inhalation of vapours of various kinds; medicated baths, mineral, mud, &c.; and lastly, air baths.

All these topics are extensively followed out, in a manner that exhibits a practical acquaintance with their value, and an intimacy with the literature of the subjects discussed; the entire work constituting a judicious and instructive guide with reference to baths and bathing of all kinds. Our readers will find this a useful addition to their libraries of works of reference, since it may be called an Encyclopœdia of baths, &c., and one which they will often find it advantageous to consult; making some allowance, however, for the author's leaning towards hydropathy.

On a New and Successful Treatment of Febrile and other Diseases through the Medium of the Cutaneous Surface. By William Taylor, Surgeon to the Clerkenwell Infirmary, and to the Police of that Division of the Metropolis. 12mo. pp. 170. London: Churchill. 1850.

The new and successful treatment here divulged consists in friction of the body and limbs with an ointment composed of lard and suet. The pathological and physiological views on which Mr. Taylor has based his treatment are drawn from numerous writers on the well-known relationship existing between the condition of the skin and that of internal organs. The diseases enumerated as those in which this treatment has been tried extensively by the author are—typhus, scarlatina, measles, dropsy, phthisis, insanity, delirium tremens, and hydrocephalus.

Without in the slightest degree disparaging the soundness of Mr. Taylor's pathological views, the accuracy of his diagnosis, or the truthfulness of the record of his cases, we may be permitted to express an opinion that the powerful medicinal agents concurrently employed may fairly claim a large share of the credit of the cures. With this qualification we sincerely hope that the greasy frictions of Mr. Taylor may be found equally successful in the hands of other practitioners.

An Introductory Address, delivered at the London Hospital Medical School, at the Opening of the Session 1850-51. By Nathaniel Ward, F.R.C.S.E., Demonstrator of Anatomy, and Assistant Surgeon to the London Hospital. Pamphlet, 8vo. pp. 31. London. 1850.

This is a very good Address. It sets before the student the objects of his studies, and the duties of his professional life, and the energy and industry with which its studies must be pursued. The inducements which the profession holds out to its members to occupy their proper position in society are also set forth. The lecturer exhorted his hearers to do everything that can become men, and to avoid everything that can degrade themselves. This precept was inculcated as a "guiding rein of thought, of word, and of deed."

DECLINE OF THE CHOLERA IN JAMAICA.

Intelligence from Kingston, Jamaica, up to the 12th ult. has been received. The cholera had quite subsided in Port Royal and St. Catherine's. In Kingston the cases were few, and the hospitals contained few patients. In the country districts, however, it was raging violently, and numbers were being carried off. The details are very distressing. Great efforts were being made to relieve the sufferers from cholera at Kingston.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

January 4, 1851.

Dr. R. Bennett, President.

Circular Exfoliation in Stumps.

Mr. Gay exhibited two preparations of bone: one was an almost complete ring of sequestrum, which had been extracted from a stump after amputation above the knee; the other being a portion of the femur, about an inch and a half in length, taken from a stump subsequent to amputation. This preparation showed the bone denuded of periosteum at its lower end to the extent of an eighth of an inch.

Mr. Gay stated that the latter specimen explained the formation of the circular sequestrum. Mr. Gay thought that, by the removal of the edges of the cut end of the bone more carefully than is usually done, the frequent occurrence of exfoliation might be avoided.

Cavity in the Pancreas communicating with the Stomach.

Dr. Routh placed before the Society the stomach and pancreas of a patient who had died from an acute attack of hæmatemesis. The two organs were agglutinated together, the stomach adhering by its greater curvature to the pancreas. On looking into the interior of the former viscus, a circular hole could be seen, through which two or three fingers could be thrust into a cavity contained in the latter one. The bleeding, Dr. Routh believed, had taken place from ulceration of the gastro-epiploic vein; the disease, which was moreover supposed by him to be of a malignant nature, having originated in the pancreas.

Two Cases of Internal Strangulation; with remarks. By Mr. Hancock.

A gardener, æt. 51, 5 ft. 6 in. in height, of temperate habits, the subject of inguinal hernia on the right side, on the 17th Oct., 1850, felt a sharp pain seize him during active exertion connected with his occupation, of so severe a character, that he left his work for a couple of hours, went home, and took some brandy and water, with the view of mitigating his suffering: the pain gradually left him, and he returned to his employment. On the 30th of October, thirteen days afterwards, he complained of a slight pain in the stomach; his bowels were constipated, in spite of aperient medicine taken on the 28th. Calomel, Dover's powder, and scammony, were administered without producing relaxation. Vomiting commenced on the 2d of November; the pain referred to the region of the umbilicus continued unabated, the belly was distended, and there was pain on pressure; pulse 126; tongue clean and red. Injections of gruel and castor oil were administered, calomel and opium given, and poppy fomentations applied. No material change had taken place on the 3d, but the pulse had increased to 136, and was feeble. When at this stage, the patient was seen by Mr. Hancock for the first time: no complaint was made of pain in the hernial region, neither had the bowel protruded for several days. Mr. Hancock made an incision through the integuments on the right side, three inches above Poupart's ligament, commencing one inch from the anterior superior spinous process of the ileum, and ending just above the external abdominal ring, and then divided the subjacent layers of the wall of the abdomen to a somewhat less extent. With some difficulty a strong band was discovered about two inches higher up than the line of incision: this was divided. The patient expressed himself much relieved by the operation; but, notwithstanding, sank in a few hours. On post-mortem examination about four inches of bowel were found in a congested condition.

The second case was that of a gardener residing at Hampstead: symptoms resembling those of the last case came on after rapidly drinking a pint of ale. There was pain at the umbilicus, and likewise over the right iliac fossa. Calomel and opium were given with some little relief, but eventually the patient died, obstinately refusing to submit to an operation.

A post-mortem examination was obtained, and it was found that the appendix vermiformis had become adherent above by a band of lymph, so as to form a loop through which bowel had passed, and by which it had become strangulated.

Mr. Hancock expressed a strong opinion on the importance of bringing before the profession all cases of internal strangulation. The symptoms were so obscure, and urgency of the cases so pressing, that the surgeon always found himself rather in a trying position. No symptoms presented in cases of internal strangulation; it was of itself pathognomonic.

Mr. Druitt spoke on the immense importance of correct diagnosis. In the malady under consideration diagnosis was of the most vital importance. The symptoms in some measure resembled those of inflammation; but in cases of strangulation the symptoms of inflammation, at first prominent, did not progress, whilst those of strangulation did. He had seen some cases of internal strangulation, and was led to believe that the expression of the countenance was peculiar, much resembling that attendant upon poisoning by arsenic.

Mr. **Wade** gave the history of two cases: in one the intestines in a boy were strangulated by a diverticulum from the ileum two and a half inches in length; in the other the colon was obstructed by a thickening involving the entire circumference of the bowel. The patient was a female.

Mr. **Gay** had met with an instance of strangulation of the small intestine by a band of lymph connected with the appendix cæci, which he divided: the pain was referred to the left iliac fossa; but nevertheless, the incision was made in the median line. He thought the median line the preferable part to cut through for the purpose of laying open the abdomen. The patient eventually died, and the bowel was found gangrenous. The obstinate constipation preceding the more distinctive symptoms of strangulation had been combated with the usual remedies. He believed when the constriction was at the lower part of the intestine the vomiting was usually postponed; when the strangulation was high up, the vomiting came on early.

Mr. **Nunn** considered that if the statement last made by Mr. Gay were correct, a most important diagnostic mark as to the seat of strangulation was gained. He drew attention to the observations of Dr. Brinton on the physiology of the alimentary canal, published in the MEDICAL GAZETTE. Dr. Brinton's researches would go to prove that Mr. Gay's statement must necessarily be true.

Mr. E. **Canton** drew the attention of the Society to the cause of the frequency of internal strangulation in the neighbourhood of the inguinal rings, and considered that it was often to be traced to the effusion of lymph consequent upon a limited degree of inflammation, which arose from feculent impaction, at some previous period of life, in the caput coli or sigmoid flexure, the fibrinous deposit becoming converted into a tough band. In the cases of Messrs. Hancock and Gay he thought it not improbable that the temporary irritation produced by the lodgment of a foreign body, or nodule of hardened fæces, in the extremity of the vermiform appendix, had originated the lymph which tied the extremity of this tube to the adjacent cæcum or ileum. An instance of internal strangulation was given, where, after the complete reduction of an oblique inguinal hernia, the patient died with a persistence of symptoms; and a post-mortem examination showed that a large amount of small gut had passed through an opening formed by an adventitious band behind the internal abdominal ring. This case was an instance, also, of constriction terminating in death without the production of any peritoneal inflammation; the patient dying, apparently, from the shock to the system. Mr. Canton had seen a band, extending from the fundus uteri to the transverse colon (and which, most probably, was formed during pregnancy), constitute a noose for a portion of intestine. He next detailed a case of the peculiar description mentioned by Mr. Druitt, in which he performed an operation, assisted by Mr. Hancock, and where death verified the diagnosis. The case (like so many on record), though unfortunate, was adduced on the principle advocated in the paper,—viz. the necessity of giving publicity to such facts, even when presenting so unfavourable an aspect. The value of the symptom pain was spoken of, and the speaker considered that the cases of Mr. Hancock and Mr. Gay were good illustrations of the dependence to be placed on this indication; for in one instance it was at the umbilicus, in the other on the left side, whilst in both the mischief existed in the ileo-inguinal region; and it might be additionally remembered, that even disease of the rectum often caused pain in the situation of the umbilicus. Another point for consideration was, whether or not blood had been voided by stool; for its passage would most probably indicate an intussusception. Even slight aids to diagnosis in the midst of obscurity become valuable.

After touching on other such auxiliaries, Mr. Canton considered the question as to the site of election for the performance of operation, and thought with Mr. Gay that, as a general rule, the linea alba was the most preferable one, and referred to the cases which had been mentioned as illustrating well this position. Some pertinent remarks had been made on the utility of maintaining a certain temperature of the apartment in which a patient was to be kept who had had an exploratory incision made into his abdomen. The success of Mr. Walne's cases of ovariotomy, Mr. Canton considered, would serve to fortify the value of this statement.

After the external incisions had been made, it was advisable at once to commence the search for a contracted portion of gut, and to trace this onwards until a sudden enlargement of the intestine presented itself, when, at the point of junction of the two, the stricture would be found. Attention to this particular might obviate much injurious manipulation,—would shorten the period of the gut's exposure to the air,—

and not only expedite, but facilitate the progress of the operation.

SURGICAL SOCIETY OF PARIS.

Dec. 18, 1850.

Elephantiasis of the External Female Organs of Generation.

M. **Chassaignac** exhibited a tumor of one of the labia and the nympha, consisting of hypertrophy of the cellular tissue, or true elephantiasis. Blandin had formerly removed a similar tumor from the other labium of the same patient. The operation was very simple; but, on account of the vascularity of the growth, numerous ligatures were required.

M. **Monod** related a case of a similar nature, in which the tumor had attained the size of the head of a child three or four years of age, and weighed four pounds.

Microscopic Examination of a Tumor.

M. **Lebert** reported that he had examined a tumor removed from the breast of a man, and had found numerous cancer-cells. M. Lebert remarked on the characters assigned to cancer by other microscopists, and observed that it was frequently impossible to determine the existence of cancer by the microscope.

Case of Transfusion of Blood after Uterine Hæmorrhage.

M. **Nelaton** related the case of a young woman, 20 years of age, in whom placenta prævia occurred, and who was apparently dying from loss of blood. Transfusion to the amount of 350 grammes (= about 11 oz. Eng.) was effected with complete success.

ACADEMY OF SCIENCES, PARIS.

Dec. 9, 1850.

On the Absorption of Alimentary Substances; and the Functions of the Lacteals.

M. **Bernard** read a memoir on this subject, in which he proposed to determine, by direct experiment, the nature of the nutritive principles which are absorbed and conveyed by the chyliferous vessels, in order to ascertain if there really exist any alimentary substances which absolutely escape venous absorption, and consequently avoid passing through the liver before arriving at the lungs.

Alimentary substances submitted to digestion are, in the intestinal canal, finally reduced to three principal substances—the saccharine, the albuminous, and the fatty emulsive; on these M. Bernard has instituted experiments:—

1. ***With regard to the absorption of Sugar by the lacteals.***—On injecting large quantities of sugar into the stomachs of different mammiferæ it has been found in the blood of the portal vein, while it was absent from the chyle of the thoracic duct at the same time and under the same circumstances; whence it is concluded that sugar, before arriving at the lungs, traverses the liver, where it undergoes a peculiar physiological modification. If a solution of grape sugar be injected into the superficial veins of a dog, it speedily passes off by the urine; on the contrary, if the solution of sugar be injected into the radicles of the portal vein, the sugar is no longer eliminated by the kidneys, but passes into the circulation, and is assimilated in the same manner as if taken into the digestive canal. Thus it is shown that the absorption of sugar by the portal system is a condition essential to its assimilation, since, if confined to the lacteals, the saccharine principle is abstracted from the influence of the liver, and is diverted directly into the general venous circulation, as takes place when it is injected by the jugular vein.

2d. *As to the absorption of Albumen by the lacteals.*—Albumen injected into the general venous circulation soon appeared in the urine. If injected into the portal vein it does not then appear in the urine, but is assimilated in the same manner as obtains with sugar.

3d. *Absorption of Fat.*—M. Bernard's previous researches have shown that fatty matters are not capable of admission into the lacteals, until an emulsion has been formed by the action of the pancreatic juice. Immediately that this emulsion has penetrated the lacteals, their aspect undergoes an entire change: instead of remaining transparent, like other lymphatics of other parts of the body, they assume a milk-white appearance, and owing to the transparency of the coats of these vessels, the course of the fatty matter may be followed from the intestine to the left subclavian vein, where it is diverted into the thoracic duct. It is not necessary that fatty matters should traverse the liver in order to their assimilation. M. Bernard has injected fatty emulsions into the jugular vein, but has not found that substance in the urine.

Thus the products of digestion may be distinguished, with reference to absorption, into two groups,—*e. g.*, 1st, fatty and albuminous matter absorbed by the lacteals, passing into the general circulation without having traversed the liver. The last proposition cannot be taken in so absolute a sense as the former, since experiment and microscopical examination demonstrate that fatty matters are absorbed both by the portal system and by the lacteals.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

There are perhaps no cases the surgeon looks upon with more interest and anxiety than those of stone in the bladder; and, indeed, in no great surgical cases is the treatment surrounded with so many perplexities and difficulties. This disease, and the means of treating it, have materially engaged the attention of surgeons in this and other countries: this, too, was the case in former years, when only one method of removing a stone from the bladder was known and practised. There was ample scope at this time for the exercise of ingenuity and skill on the part of the surgeon in inventing and modifying the necessary instruments, and so adapting them that the operation of lithotomy might be executed in the most speedy and safe manner. And those who have had opportunities of looking over the "armamenta" of various surgeons of bygone days will be able to form some opinion of the trouble which has been taken for simplifying or complicating (as each one may choose to think) the operation of lithotomy, and the great importance the affection itself has been viewed in.

If, some half century back, such interest was taken by surgeons in the study and treatment of stone in the bladder, when there was only one known method of curing the disorder, it is not unlikely that much more is excited now that, in addition to the old operation of lithotomy, another, and apparently less severe, proceeding is found to be, in a great number of instances, adapted to the removal and cure of a stone. The subject is surrounded with a greater interest, inasmuch as greater difficulty is connected with it. Before lithotrity was discovered there was little difficulty to be encountered by the surgeon, as far as regards choice of cases for operation. If a man had stone in the bladder, and there was nothing to contra-indicate it, he was cut, and of course nearly all the danger and anxiety lay in the operation itself; but, since the crushing process has come into vogue, the case has become much altered: the surgeon is obliged to look about him with more care and judgment, he is no longer only to say that such and such a case is a fit one for operation, but it is now his duty and a necessity to examine into all the circumstances connected with it minutely and carefully, so as to be able to form an accurate opinion as to *which* proceeding should be put in force; and, moreover, his anxiety as to the result of an operation is now greater, for when lithotomy only was performed, a few days, in the generality of cases, were sufficient to tell what would be the upshot,—it was "*aut cita mors aut læta victoria.*" But in numerous instances the difficulties and doubts respecting the results of lithotrity will extend over weeks, and sometimes months, and extreme care on the part of the surgeon, and great prudence on the part of patient, is necessary in preventing mishaps, and in conducting a case well to its termination. This is by no means an exaggerated picture; every attentive surgeon who has had some considerable opportunities of observing the treatment of stone in the bladder, as carried on in the present day, will admit the difficulties connected with it, and the anxieties and doubts which must hang over every case, whether of lithotomy or lithotrity. We a short time ago reported an interesting case in which the latter proceeding had been put in force by Mr. Fergusson, and which well illustrated the force of the remarks we have just made, and which were reverted to at that time. In that instance it will be remembered that lithotrity was employed to crush a large stone in the bladder, where everything appeared to be most favourable for that operation; and yet a dreadful train of symptoms set in, and the patient died in three weeks, after the most intolerable sufferings, from the effects of intense inflammation of the bladder and kidneys. We shall now relate two instances of stone which contrast with each other: in the one case lithotrity had been tried and had failed, lithotomy was done, and the patient died; in the other the latter operation was done at once, and the patient made a good recovery.

The subject of the first case was a man, aged 63, who was admitted into King's College Hospital, Feb. 23, 1850, for the purpose of having the operation of lithotomy performed upon him by Mr. Fergusson. He had suffered much from symptoms of stone in the bladder for fifteen months, and had been under Mr. Fergusson's notice out of the house for some time. That gentleman had considered it a fair case in which to try lithotrity, and he had crushed the calculus on five or six separate occasions. The patient suffered very little after each sitting, and there was comparatively little irritability of the parts, A considerable amount of stone was brought away, but the entire could not be removed. An interval of some weeks was allowed to elapse, after which an attempt was again made to crush and get away the whole of the fragments; but it was unsuccessful, and the failure appeared to arise from an enlargement of the prostate gland, which probably prevented the play of the instrument, or the fragments from escaping from the bladder after they had been broken up. It was determined upon, therefore, to perform lithotomy, and, after the patient had been kept in the hospital for some days, the operation was performed by Mr. Fergusson in the usual manner. The bladder was rapidly cut into, and the whole of the fragments of stone—ten in number—were as quickly seized and removed at once, by depressing the blades of the forceps behind the prostate, where it was supposed they lay in a kind of pouch.

The whole proceeding was executed in the speediest and most able manner that it could possibly be effected in; there was not any unusual bruising or laceration of soft parts, and no particular hæmorrhage at the time or afterwards.

In the evening of the same day the patient was restless and excited, and required a strong opiate. The day after operation, he complained of pain in the abdomen, which became tender and tympanitic; everything was right about the wound; urine came away freely through it. Measures for relief were ordered, but the symptoms became more marked, and next day, after noon, the face became anxious, breathing rapid, belly more tense and tender, pulse very rapid, and he sank in a little more than forty-eight hours after operation.

On making a post-mortem examination of the body, it was found that everything was right as regards the parts wounded by the operation. There was the ordinary clear cut through urethra and prostate, and no unnecessary damage had been done. On opening the abdomen, there were presented the ordinary signs of peritonitis, consisting in an effusion of a thin layer of lymph. The most interesting part of the body to examine, however, was the bladder. This organ was found to be in the following state:—Its mucous membrane was considerably thickened, and in several situations at its base it was depressed into small pouches. The prostate gland was not in a normal condition; its middle lobe was considerably enlarged and elevated into the cavity of the bladder; and behind this was a sort of pouch behind which the calculi lay when the operation was performed. The surface of the enlarged lobe of theprostate was covered with a thin phosphatic deposit.

Here, then, is a case which illustrates the truth of the remark that there is very great interest and anxiety connected with the operation for removing a stone from the bladder. The main features of interest in this case consist in the circumstance of the failure of lithotrity, and in the speedy fatal result after the operation of lithotomy. It has been observed that Mr. Fergusson had made several attempts to destroy this stone by the lithotrite, but he had found it impossible to effect this, not because there was any undue irritability of the urinary passages, or any difficulty in the patient bearing the several operations,—for in this respect it was a case to which lithotrity was admirably adapted,—but it was found that the fragments, when crushed, could not pass away from the bladder from some cause or other, and it was suspected that there was some enlargement of the prostate gland. It was evident that lithotomy must be performed for the purpose of effectually getting rid of a considerable quantity of stone still remaining in the man's bladder, and Mr. Fergusson confidently hoped that, as he had borne the crushing process so well, he would suffer comparatively little from the more severe measure of cutting into the bladder. The event has shown how the best expectations of the surgeon are likely to be frustrated in an operation for stone, and how impossible it is to estimate beforehand the result which may follow in any one case, however favourable it may appear to be for operation. A very eminent surgeon has lately advanced the opinion that the fatality after lithotomy in general is owing to some fault in the operative procedure, or to an improper condition of the subject to be operated upon. And he has moreover stated his belief that lithotomy may, if proper care be taken, be executed with as few fatal results as happen after the simple operation of tying the femoral artery in his hands.* We are not disposed to deny that there is some force in this remark; there can be no doubt that many deaths are the result of a want of skill on the part of the surgeon, both in exceeding the manipulative process, and in selecting his cases; but, on the other hand, it must be confessed that death does and will follow in a most unexpected manner even when the best skill has been employed, and when the patient has been in the best possible condition, as obtained in this case.

The post-mortem examination showed the cause of the non-success of lithotrity; for the third lobe of the prostate gland being enlarged to a considerable extent, acted as a kind of valve, and behind it was a depression where the calculi lay; so that it was almost impossible that the fragments could get into the urethra. It is a complication like this that renders lithotrity so difficult, so dangerous, and tedious; and this is especially the case if the prostate be in a state of congestion, or bleeds easily when instruments are introduced. In such cases, if the operation does not destroy the patient, the process of cure is sometimes lengthened out for many months, and even then a small fragment may remain lodged behind the enlarged gland, and, escaping detection for a considerable time, become the nucleus of a fresh concretion. Even had the proceeding of crushing been apparently successful in this instance, it would have been likely that some portion at least of the fragments would have been left behind the enlarged middle lobe, and caused the patient great annoyance.

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* This is tantamount to saying that lithotomy may always be successful, as Professor Syme has universally been successful in his operations for tying the femoral artery. Not equally so, we believe, in his cases of lithotomy.

We will now pass on to relate another case of stone in the bladder which Mr. Fergusson has very lately operated on by lithotomy. There are one or two features of interest connected with this instance as well.

William B——, æt. 52, eighteen months ago first had symptoms of stone, consisting of pain in the bladder, frequent desire to make water, &c. He applied to a medical man, who treated him for about six months for indigestion, for which he took large quantities of medicine. On applying to another surgeon twelve months ago, a stone was discovered, but he was afraid to be operated upon, and he was not admitted into King's College Hospital until Oct. 24, when his symptoms were a great frequency of making water, about twice an hour if walking, once in two hours if sitting quiet. The urine, high coloured, had a mucous cloud in it, much increased after taking exercise. There was a sensation of a moveable substance in the bladder; this he had noticed for some time. Bowels regular; sleep and appetite good.

29th.—A sound was passed to day, and a large stone was discovered. Mr. Fergusson has determined to perform the operation of lithotomy.

November 9th.—The operation was performed in the ordinary manner, with the knife. The bladder was quickly cut into, and the stone was at once seized with the forceps, but it could not be extracted until the position was changed, as it was a large flat oval calculus, and it had been caught transversely by the instrument. There was no unusual amount of bleeding during the proceeding.

This patient went on without a bad symptom: in fact those symptoms which usually supervene after a severe operation were not present, until the evening of November 14th, when he was very suddenly seized with a very violent rigor, which lasted upwards of half an hour. It was accompanied by vomiting, and the pulse became very rapid. He was ordered a dose of opium, and hot bottles were placed to his feet. Upon re-action occurring there was headache, a furred and somewhat dry tongue, a flushed face, and depressed spirits.

16th.—He had passed a restless night, and on making his water a little blood passed along the urethra. His feverish symptoms now went off, and nothing particular occurred until the 20th, when on micturating he felt great pain in the penis, and a large quantity of blood came away, both by the urethra and the wound; no instrument had been passed into the bladder since the operation. Cold applications were applied, and five grains of gallic acid given three times daily, until the 22d, when the bleeding which had gone on since was completely arrested, and the patient was freed from every bad symptom: the wound healthy and very nearly closed. By the 3d of December it had healed up, and the patient was quite well.

There is considerable interest attached to this case in more than one point of view; in the first place, the real malady under which the patient was suffering had been entirely overlooked by his own medical attendant, who had been treating him for indigestion for several months, during which time unequivocal symptoms of some irritation of the bladder existed, and there can be no doubt that a stone would have been detected there if proper means had been employed for ascertaining it. Wherever there are symptoms of bladder irritation, which do not give way under ordinary treatment (especially in an elderly person), it is well to search the bladder, as it not unfrequently happens that a stone in that viscus may be, unknowingly to the patient or surgeon, the cause of all the morbid phenomena which are present.

In the progress of this case after the operation it was seen that the patient suffered nothing on the first few days, but on the fifth day a very severe rigor occurred, which was followed by feverish symptoms; some little anxiety was felt respecting this attack at first, but the symptoms went off, and were followed by an occurrence of a somewhat remarkable and unusual character,—namely, hæmorrhage from the bladder, which was at one time in considerable quantity, but in a few days this also ceased. The circumstance of this bleeding taking place, more than a week after the operation, must be looked upon as very interesting, as it is a phenomenon which so rarely occurs. Secondary hæmorrhage not unfrequently happens shortly after the operation of lithotomy, the blood either coming away from the wound, or flowing backwards into the bladder, causing retention, and necessitating instrumental aid; but it is a rare thing to see bleeding at such a period from the operation, and its occurrence at this time would be quite sufficient to cause alarm in the mind of the surgeon who had never met with such a circumstance before, and to terrify the patient as well.

Mr. Fergusson has had two cases under his notice in which the same thing occurred, and he therefore looked upon bleeding in this case as of no importance, and did not make himself anxious about it. It is difficult to say what was the cause of the hæmorrhage; it clearly came from the bladder, as the blood was evacuated both by the urethra and by the wound, and it is not improbable that there was some engorgement of the prostate gland, and that the bleeding was a natural means of relief to the congested parts; the occurrence of a smartish attack of fever just before indicated that there was some disturbing cause somewhere, and it is well known that spontaneous hæmorrhages are generally preceded by febrile symptoms, and that these give way when the vessels of the part are relieved of their load.

HÔPITAL BEAUJON, PARIS.

Autopsy of a Case of Fibrous Polypus occupying the Nasal Fossæ. Under the care of M. Huguier.

[Continued from p. 38.]

We resume the history of this case by adding the result of the post-mortem examination of the body, an account of the structure of the tumor, and M. Forget's practical remarks.

The autopsy confirmed the fears that had been entertained, that the polypus, so large a portion of which had been removed, had its extreme attachments at the base of the cranium. The posterior portion of the vast excavation in the face was obstructed by a mass of fibrous tissue which had been untouched by the operation, and which closed the posterior opening of the nares. This aperture was of double its normal diameter, the palatine and pterygoid processes being displaced. The sphenoidal cornua, the vomer, and the perpendicular laminæ of the ethmoid, were destroyed; the only traces that remained of these were thin deformed films. Above, the tumor had been in contact with the cribriform plate of the ethmoid bone, which to the left side, with the adjoining parts of the sphenoid, were perforated by an opening as large as a two-franc piece. The thickened dura mater formed the inner wall of this orifice, and was in contact with a rounded portion of the tumor.

In the right zygomatico-maxillary fossa a supplementary fibrous tumor of the size of an egg adhered intimately to the bones, and sent off a process to be attached to the basilar process and inferior surface of the larger wing of the sphenoid. The sphenoidal cavities were also invaded by the morbid growth; the sella turcica was completely obliterated by elevation of the bone. In consequence thereof the motor oculi nerve, the decussation of the optic nerves, and the Gasserian ganglion, were all displaced, and compressed against the inferior surfaces of the tumor and brain. The pressure, however, having been very gradual, the structure or functions of the nerves had not been altered.

In the right median fossa, at the base of the cranium, there was found a round mammellated tumor, about the size of a small unripe orange, presenting the firmness and aspect of fibrous tissue. This tumor corresponded with an opening in the sphenoid and temporal bones, and doubtless proceeded from the fibrous mass which was found in the zygomatic fossa.

In reviewing the details of this interesting case (observes Dr. Forget, the reporter) we are arrested in the first place by the consideration of the causes of these affections. If nasal polypi are often developed without any appreciable cause, they are also frequently the consequence of injury. In the writings of Plater, Levret, Bonet, Paletta, and others, so many cases are related in which, like the case in point, the disease has followed on falls, blows, or other violence to the nasal region, that the relation of cause and effect may logically be admitted between the external injury and the appearance of the tumors.

With reference to the precise origin of these abnormal growths, this is indicated by their composition: they do not originate in the mucous membrane, but in the submucous fibrous structure or internal periosteum. Thus this tumor was found to consist of fasciculated fibres of a dull white colour, greyish at some points, streaked with bluish stripes at other parts, and constituting by their interlacement a parallel plane, extending in the direction of the axis of the polypus. It was not so hard as these growths generally are, but was soft, moist, and permitting exudation of blood from the divided ends of the vessels which remained patent—a condition which was productive of real danger in its division during life.

The age of the patient may probably have exerted a determinate influence on the character of this growth. It is during childhood that the cephalic vital and nutritive actions have their greatest energy; and, accordingly, abnormal products participate in this state of organic activity: hence the rapidity of the development, and facile displacement of the yet soft bony structures by this tumor. The same physiological condition will serve to explain the rapid enlargement of the several parts of the face, as well as the number and size of the vessels existing in that region.

The impediment to free respiration, and the full performance of hæmatosis, which obtain in such cases is a source of real detriment to the condition of the patient. In the present case this was exhibited in the pale, emaciated, undeveloped state of the patient, who did not appear to be more than ten years of age. These circumstances were of importance in the determination of the surgical question of operation, as it was doubtful whether there existed sufficient constitutional power to effect a healthy reaction, or even to sustain the shock of the operation itself.

The post-mortem examination revealed a sufficient extent of disease to have presented the greatest difficulties and obstacles to the success of the operation. At the same time, there were no diagnostic characters of this extent of the disease; there was present no disorder of the functions of the nerves or nervous centres to indicate its connection with the base of the cranium or with the brain. It furnishes an additional instance of the extent of compression which the nervous centres will endure, if it be only gradual and gentle in its development. A lesson is also taught of the caution required in surgical diagnosis, since combinations the most unexpected may be met with in the course of operations and obstacles be encountered which all the skill and sagacity of the surgeon may not be sufficient to cope with.

Correspondence.

YEAST IN THE TREATMENT OF MALIGNANT SCARLET FEVER.

SIR,—In your number of the 20th inst. I have read "An Account of a Recent Epidemic of Scarlatina," by Dr. Helfft, wherein he mentions several anomalous features which that disease has presented in different parts of Germany. Now, I also have seen cases in this town and neighbourhood somewhat similar, and, like Dr. H., "deem it my duty to lay before the profession" the plan of treatment I pursue.

I have not had any opportunity of making (like Dr. H.) post-mortem examinations, because I have not lost any of my patients since I commenced the treatment I will mention.

At present, and especially during the epidemic of scarlet fever in 1847, I have found the administration of *fresh yeast* of the most invaluable advantage when the symptoms are of that anomalous character which Dr. Helfft describes, or when the disease assumes its most *malignant form*. After ammonia, the mineral acids, chlorate of potash, &c., have failed, and the application of nitrate of silver besides, one or two tablespoonfuls of fresh yeast *frequently given* (according to the age and malignancy of the case) has, in my practice at least, been so quickly efficacious as an antiseptic and stimulant, that I have, from the circumstances before alluded to, been induced to send you this short communication, and in the hope, also, that the remedy may be fairly tried by others.

I am, sir,
Yours obediently,
FRANCIS BENNETT.

Gateshead, Dec. 28, 1850.

Selections from Journals.

CHLOROFORM AND ETHER.—DR. BEESE'S NOTES OF HOSPITAL PRACTICE.

THE employment of these anæsthetic agents by inhalation has been signally successful in every department of hospital service. At first, and immediately after its introduction into the Massachussets General Hospital, the ether was used in all surgical operations of any magnitude, and in various painful and spasmodic diseases. No permanent evil effects followed, except in a single instance, in which cerebral disease, probably of organic character, had pre-existed, and in this case the operation for the removal of extensive exostosis was necessarily tedious, and the inhalation had to be continued, and more than once repeated. The wound healed kindly, but the patient had to be subsequently sent to the insane department, and is deemed incurable. As, however, he had exhibited indications of insanity long prior to the inhalation, the mischief cannot fairly be ascribed to the etherisation, although it would be indiscreet to employ this agent in any similar case. In no other instance did any evil happen which could be legitimately traced to the use of ether, although it was used very frequently for months, and until the introduction of *chloroform.*

This latter article was adopted as a substitute for the ether, as soon as authentic accounts were received of its employment by Dr. Simpson with success, and chiefly because we had found that the effects of ether were too slow in some cases, unequal in degree in others, while it occasionally failed. The chloroform used at first was prepared by Dr. John Miller, then chemist and apothecary to the hospital, and was of entire purity and great strength. Our early experience with it developed two objections to its use—namely, it was sometimes too rapid in its action, occasionally cumulative, and deep anæsthesia came on too suddenly: hence we used it with great caution, and closely watched its effects. Anxious to avail ourselves of its greater certainty than ether, and yet avoid too deep anæsthetic effects, we determined to dilute the chloroform with ether, in the proportion of two measures of the latter, by weight, to one of the former. With this mixture we have had every reason to be satisfied, and have hence very rarely employed the chloroform alone. The suggestion of this mode of dilution was first made by Dr. W. H. Van Buren, one of the visiting surgeons, and at his instance it was prepared and used for a surgical operation, with such entire success that we have employed this mixture ever since. In some instances, it is true, we have found patients so unsusceptible, that we have resorted to the chloroform alone, until the desired insensibility was produced, and then rendered the effect persistent, as long as necessary, by using the mixture of chloroform and ether; regarding it as a safer practice, and equally efficacious to this end.

Our method of employing these agents has been either by applying to the mouth and nostrils a hollowed sponge, moistened with ʒj. or ʒij. of chloroform, or ℥ss. of the mixture; or, by means of a towel or handkerchief in lieu of the sponge, and which, on some accounts, is to be preferred. In no case have we persisted continuously to apply either of these agents so as to exclude the atmospheric air, but have always allowed the alternate inhalation of the air and that of the chloroform or ether; and our rule has been to remove the agent from the mouth and nostrils as soon as anæsthetic effects have become manifest, reapplying the sponge or towel occasionally, if necessary. With these precautions, our experience has been so entirely free from any untoward or unpleasant consequences, that we can scarcely feel the force of the objections recently urged against anæsthetic agents, and are constrained to apprehend that the mischiefs described have resulted either from the want of due caution in their employment, or the lack of discrimination in the subjects, by overlooking existing pathological states which contra-indicate their use. Certainly, we can have no sympathy with the surgeon whose unsuccessful operations are ascribed by himself to etherisation; much less is any man authorised to attribute the want of success in another to the fact that either chloroform or ether had been used in the case.

The following are a few of the specialities in which these agents have been employed here; namely:—

1st. In *reducing dislocations;* and here our experience has proved the invaluable importance of the discovery which has furnished to the profession these means of completely relaxing the muscles and ligaments of the larger joints. In several instances, luxations at the shoulder and hip of long duration, which, after repeated trials, could not be reduced by any amount of physical force applied in the ordinary way, were, after the inhalation of chloroform by the patient, found capable of ready reduction with the thumb and finger. If no other good were conferred by chloroform, this alone would render the discoverer a benefactor to the world.

2d. In hysterical, epileptic, and puerperal convulsions, we have had frequent opportunities of witnessing the speedy and effectual relief afforded by the inhalation of chloroform and ether; and, in the latter of these forms of disease, after extensive venesection and the other most potent antispasmodics had been tried in vain.

3d. In delirium tremens, we have frequently been able permanently to calm a violent patient, and induce profound and protracted sleep, after both lupuline and opium had failed.

4th. In paroxysmal or spasmodic asthma, a very few inhalations of ether or chloroform, without even approaching full anæsthesia, will be found more effectual for relief than any other remedy.

In tedious, protracted, or severe labour pains, and especially when mal-presentation, or other causes, render painful operations necessary, whether manual or instrumental, the inhalation of chloroform, with the precautions already named, has been found to be uniformly safe, and pre-eminently useful, both to the mother and child; while it divests the most formidable operations of obstetric surgery of their terrors, alike to the physician and his patient. We have not encouraged the use of this agency in natural labours, unattended by any considerable severity, although in these cases no evil has happened to mother or child in our hands; but, in all cases in which it has become important to lessen the sufferings of the mother, we have uniformly administered the chloroform, and have had every reason for undiminished confidence in its innocence and utility: indeed, we had good ground to believe that in several cases our patient would have died undelivered if we had been without chloroform; and yet, in more than one of these, the child as well as the mother was saved. Nor have we been able to detect, in a single instance, any subsidence or diminution of the labour pains, either in frequency or force, during the moderate degree of anæsthesia, which is all that is necessary for any useful purpose in obstetrical practice. And yet we have been obliged, in some severe labours, to continue the repetition of the inhalation during several hours—applying the chloroform to the nostrils and mouth for a few moments only, however, at the commencement of every pain—our patient importunately pleading for it, after having felt its efficacy in relieving her sufferings. Such has been our hospital experience in certainly one of the largest lying-in departments in our country.

Surgical operations.—In all cases, when the severe or formidable operations of surgery have been called for, whether by the knife, saw, chisel, or red hot iron, we have not hesitated to give our patients the benefit of chloroform; and, in all this variety of infliction, we have witnessed entire immunity from pain, and in most cases there has been no consciousness of the operation. The limb has remained unheld and unmoved while the actual cautery has been made repeatedly to traverse a joint; and in one instance of the amputation of a thigh, the patient remained ignorant of his mutilation until the fifth day, when it became necessary to dress the stump, he all the while supposing that his leg was bound up in splints, and complaining of that very common, though imaginary, sensation in the toes of the amputated limb. The success of operations, and the early healing of the wounds thus made, have in no instance been hindered or delayed, so far as we could perceive; and we have even surmised the contrary. In primary amputations, after compound or comminuted fractures, when these are judged necessary, the additional shock to the nervous system, so much dreaded, is in a great measure obviated by the judicious use of chloroform; and, whatever may be the prejudice existing or engendered by panic-makers, who are for the most part mere theorists, the extensive experience and success of practical men, here and elsewhere, should disabuse the profession and the public of the erroneous views which have been promulgated of late, on the basis of a few unsuccessful and probably indiscreet experiments, and isolated cases of unfortunate termination. The profession should not only allow their patients the advantages derived from this new agency to protect them from suffering, but they should feel that they are not at liberty to hazard the safety of their patients by withholding from sufferers of every class the benefit of anæsthesia, now that science has conferred this boon upon afflicted humanity.—*Dr. Reese*, in *American Journal of Medical Sciences, Jan.* 1850.

ON IODOGNOSIS.

M. **Dorvault** has published a series of researches on the chemical, therapeutical, and medical properties of iodine. To these, as embracing the entire knowledge of all the properties of that substance, he has given the name of iodognosis, *iodognosie* (from ἰώδης and γνῶσις).

We here submit an abstract of the medical portion of these researches, from the *Gazette Médicale de Paris*:—

Iodine, as a therapeutic agent, according to M. Dorvault, is unimportant; it is to its combination as *iodides* that its medical value is due. Even when introduced alone into the system its therapeutic effects are to be attributed to its combination with the alkalies which exist in the fluids of the body. Under either circumstances the terms *iodic medication* express the same fact. Iodide of potassium is taken by M. Dorvault as the type of iodides.

Physiological Action of Iodides.

Iodides belong to that class of therapeutic agents to which M. Dorvault gives the name of *chemico-catalytic*, and form its most striking representative. This proposition is founded on the following facts:—If the animal fluids (blood, lymph, semen, milk), or their proteic elements (albumen, fibrin, casein), be subjected to the action of a solution of iodide of potassium, it will be seen to prevent their coagulation and dissolve them. In producing this effect the salt remains unaltered; it acts, therefore, by virtue of what chemists have called the *catalytic* force. The same may be shown to have obtained when employed in certain pathological cases. The salt may be detected unaltered in the blood or urine, or other secretions.

These facts have been observed by many other investigators, and all have found practically that iodide of potassium promotes secretion, increases the functions of the mucous glands of the alimentary canal, and of the liver, kidneys, skin, pancreas, parotid, &c.

Iodide of potassium is rapidly eliminated from the animal fluids. Dr. Scharlau (of Stettin) found that a patient to whom he gave fifty-three grammes daily, eliminated fifty-one grains by his urine. The five grains lost were accounted for by the elimination of this salt by the saliva, sweat, and tears. Dr. Kramer satisfied himself, from his experiments, that six days sufficed for the complete elimination of this salt after its exhibition during fifty days. The researches of Dr. Marchal, at Vâl de Grace, also prove the rapid passage ot iodide of potassium by the urine.

Iodine introduced into the system has been separated by the action of alkalies on the blood.

Special Action of Iodides.

The accidental or consecutive action of iodides has often been mistaken for their primary or efficient action. Some physiologists have considered iodine as a stimulant, others as a contra-stimulant. M. Dorvault observes that neither view expresses the exact truth. He admits a certain degree of general constitutional excitement under its employment; also that in severe pains of the bones, and other tumors, the action of iodine is sedative by allaying pain. But in both these cases the stimulation and the sedative action are the consequence, not the cause, of the beneficial therapeutic agency of the remedy.

A third opinion, that iodine is alterative, M. Dorvault regards as nearer the true explanation, but as insufficient in fact, as the medicinal influence of the iodides is often seen after the first dose, therein differing from alteratives. M. Dorvault admits, however, the alterative action of some substances in which iodine exists in minute quantities,—*e. g.*, sponge, cod-liver oil, &c.

M. Dorvault also considers the purely chemical theory of the action of iodine as incorrect; his own opinion being, that the medicinal virtue of the iodides consists in their power of dissolving or further liquefying the *humours* of animal bodies, of separating their constituent or proteic elements, and disposing these to the formation of new products, such as coagula, false membranes, and pathological concretions: that the iodine and the potassium united both concur in the production of this result, by a special and peculiar chemico-physiological power which iodides possess of liquefying the fibrine of the blood without destroying the globules; while potash, ammonia, and other substances, dissolve the blood in all its parts.

Therapeutic Action of Iodine. The pathological states in which it is employed.

Goitre, scrofula, syphilis, skin diseases, white swelling, caries of the vertebræ, tabes mesenterica, rickets, phthisis, leucorrhœa, amenorrhœa and chlorosis, cancer, cachexies, dropsy, poisoning, tumors, rheumatism, various chronic diseases, hypertrophy. These are the forms of disease in which, M. Dorvault observes, the administration of iodine is indicated.

[M. Dorvault's profession is chemistry, and his remarks on the employment of iodides in this catalogue of maladies are therefore not original, but borrowed from other writers. With these our readers are for the most part familiar, and we shall not, therefore, occupy space by transferring them to our pages. The chemico-physiological action of iodide which we have given above we regard as possessing very considerable interest.]—*Gaz. Méd.*

POISONING WITH CANTHARIDES.

The following appearances were observed by M. Arreat in the body of a man exhumed for the purpose of examination (by order of the *Cour d'Assizes de Vaucluse*), on suspicion that the deceased had died from poison:—

The cavity of the mouth was covered almost entirely with thick white mucus, symptomatic of violent inflammation of the digestive tube. When removed with the handle of a scalpel, there appeared two considerable aphthous ulcerations on the back of the tongue and on the inner surface of the lower lip. The tonsils were both deeply ulcerated,—indeed, almost destroyed, and covered with copious thick yellow pus. The œsophagus presented unequivocal traces of severe inflammation throughout its whole course. The small intestines presented brown and reddish discolouration, indicative of inflammation. The liver exhibited a yellow discolouration on its duodenal surface. The bladder was of a brownish colour; this organ was indurated, contracted, and greatly thickened; its internal surface was completely covered with black fungoid patches, consisting of extravasations of blood in its altered structure. The cavities of the kidneys presented similar changes.

The small intestines contained no trace of the powder of cantharides, but particles of these were found in considerable numbers on various parts of surface of the mucous membrane of the stomach, which exhibited abundant traces of inflammatory action, and in some parts was in a gangrenous state.

The rectum appeared as if an immense blister covered its muscular coat, filled with pus. Such an extent of disorganization M. Arreat had never before witnessed; and it was a source of regret that it was impossible so to preserve it that it might have been exhibited to others.

The fæces contained in the intestines were submitted to the action of alcohol, and a very large number of the particles of powdered flies were found therein.

The poison in this case had been administered certainly twelve or fifteen days (perhaps more than a month) before death. It appeared that a dose of at least two grammes (—30 grs. Eng.) had been administered the day before death occurred.

The symptoms appear to have been, obstinate costiveness, fearful colics, and a sensation of burning in the throat and rectum.

It was proved that the cantharides had been administered by the widow of the deceased.—*Journal de Chimie Médicale*, Novembre 1850. X

Medical Intelligence.

EPIDEMIOLOGICAL SOCIETY.

THE second ordinary meeting of this Society was held at the house of the Royal Medical and Chirurgical Society, 53, Berners Street, on Monday, the 6th of January: Dr. Babington in the Chair.

The President announced the names of gentlemen proposed as members, sixteen in number.

Donations of books were also announced. Dr. Bryson, R.N., read the continuation of a paper on the infectious nature of cholera.

Col. Sykes, and other gentlemen who spoke, agreed with the views contained in the paper read by Dr. Bryson. It is supposed that, at the next meeting in February, the gentlemen who entertain different notions will enter the field.

The PRESIDENT announced that three committees were already formed; for the investigation of small-pox and vaccination: for epidemics occurring in hospitals, lunatic asylums, &c., and one for the inspection of common lodging-houses, with a view to ascertain if disease originate in such.

The paper announced to be read at the next meeting in February is on the Origin of Cholera and Small-pox in Guernsey, by S. Elliott Hoskins, M.D., F.R.S.

The meeting, although not so numerously attended as the first, was highly respectable. Sir C. M. Clarke was present.

KING'S COLLEGE HOSPITAL.

THE corporation of King's College Hospital purpose to introduce a measure in the ensuing session enabling them to hold lands for the purposes of the college, for approaches thereto, and for pulling down the present buildings.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 4.

BIRTHS.		DEATHS.	
Males....	829	Males....	693
Females..	763	Females..	676
	1592		1369

CAUSES OF DEATH.

ALL CAUSES	1369
SPECIFIED CAUSES	1364
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	239
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	54
2. Brain, Spinal Marrow, Nerves, and Senses	119
4. Heart and Bloodvessels	63
5. Lungs and organs of Respiration	321
6. Stomach, Liver, &c.	73
7. Diseases of the Kidneys, &c.	12
8. Childbirth, Diseases of Uterus, &c.	8
9. Rheumatism, Diseases of Bones, Joints, &c.	7
10. Skin	1
11. Premature Birth	34
12. Old Age	59
13. Sudden Deaths	32
14. Violence, Privation, Cold, &c.	124

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	28	Convulsions	35
Measles	29	Bronchitis	152
Scarlatina	14	Pneumonia	101
Hooping-cough	58	Phthisis	147
Diarrhœa	19	Lungs	13
Cholera	1	Teething	14
Typhus	48	Stomach	5
Dropsy	18	Liver	19
Hydrocephalus	33	Childbirth	6
Apoplexy	23	Uterus	2
Paralysis	35		

REMARKS.—The total number of deaths was 202 *above* the average mortality of the 1st week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·75
" " " Thermometer[a] ...... 47·1
Self-registering do.[b] .... Max. 57· Min. 32·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·38.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 11° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. C. S. Bate's communication has been received.

The concluding paper on the Climate of Italy is unavoidably postponed until next week.

Mr. Gallwey's contribution in continuation will be inserted in the following number.

A Student.—We do not know, but an application to Mr. Paget would procure the information.

Lectures.

CLINICAL LECTURE ON CASES EXHIBITING CEREBRAL SYMPTOMS WITHOUT CEREBRAL LESION.

(Delivered at King's College Hospital.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XVII.

Case—*Lethargy and pain in the head—dependent not on brain, but on renal disease—State of the urine—diuresis—prognosis—Death by apoplexy—why so rapid—Palsy of both buccinator muscles a sign of profound apoplexy—treatment—Case of delirium—removal—use of straight-waistcoat—typhoid symptoms—death—state of brain—cause of death—caution as to moving delirious patients.*

Gentlemen,—Two cases have within the last day or two terminated fatally in the wards of this hospital; these I mean to make the subject of my observations to you to-day: they are both of a very interesting nature, highly illustrative of important points in pathology, and such as will well repay the careful study of those who have narrowly watched them.

The first is that of Moses Jeffrey, a heavy lethargic patient, whom you must all, no doubt, remember as having been long an inmate of the Sutherland Ward, where he was admitted on March 7th, 1849. His disease belongs to an interesting class, which, while they exhibit a remarkable similarity of symptoms, may be referred to very different causes. Our knowledge of the real nature of these cases is deduced from the union of the study of clinical history with post-mortem examination. Indeed, without the opportunity of examining the state of the principal organs of the body after death, we should never have arrived at any accurate knowledge of the real nature of these cases; for, did we look only to the symptoms, we should be led to refer them to only one and the same cause,—as, indeed, had always been done until modern researches, by means of that union, to which I have already referred, of diligent clinical study and post-mortem investigation, taught us to interpret the symptoms, and to appreciate their real value and indications.

Our patient was one of a class of men addicted to intemperate habits: he was a compositor by trade: he had formerly drank a great deal, but for eight years he had been a teetotaller, and had strictly adhered to the pledge. His recent temperance, however, notwithstanding that it extended over so many years, was not enough to save him from the consequences of his former habits.

Five years before his admission he began to have œdematous swelling of his legs, but this did not last long: it was probably owing to some temporary want of action of his skin. His next symptom, which commenced six or eight months before he was admitted, was frequent micturition at night: he was compelled to get out of bed six or seven times of a night. This was probably due partly to an irritable bladder, and partly to the quantity of urine secreted. He next became affected with head symptoms: he suffered from violent pain in the vertex, which continued ever after unabated. Soon after this his sight began to get dim, the little and ring fingers of his left hand became benumbed, and he felt very drowsy and unable to work.

The report goes on to describe him as "a heavy-looking man, thin and pallid; the complexion peculiarly sallow, as if the red particles of the blood were not only deficient, but as if the hæmatine were altered; frequently staring with a vacant gaze, answering questions very slowly, and appearing as if he felt it irksome to be made to reply otherwise than in monosyllables: moving his limbs about very slowly, and apparently with effort; pupils equal, contracting sluggishly."

Now a patient coming to you with such a catalogue of symptoms as this, you would be tempted to set the case down as one of disease of the brain, in which the primary mischief is seated in that organ; and, if you made no further inquiry, you would immediately direct the whole force of your treatment to the head. Indeed, some years ago, this is what all practitioners would probably have done; for, in the state of knowledge then, they could not have known what else to do: but we now know that such symptoms as I have already detailed to you, referable as they certainly are to the organs within the head, ought, nevertheless, to direct our attention to other organs likewise—namely, to the kidneys, and more especially if, in addition, the patient has a pale sallow complexion, such as was very well marked in Jeffreys. Then, turning our attention in this direction, what information did we get in the present case? Why, we found that the quantity of the urine was considerable, and that its specific gravity was very low; that it was acid, contained albumen, and that, on being allowed to stand, it threw down a scanty precipitate, which was found to consist of epithelium, of transparent casts of uriniferous tubes, and of one or two cells containing a considerable quantity of fat.

Here, then, we get a satisfactory explanation of the head symptoms—a true and sufficient cause for them: we find them to be *secondary*, resulting from previously existing and primary disease of the kidney. It was evident that the general nutrition of our patient was considerably impaired; and, as the result of this impairment of nutrition in general, there was of course an impairment of the nutrition of the brain in particular: and moreover, although there was a considerable quantity of urine passed—for some days, indeed, the quantity of urine was so large, as much as nine pints, or even ten pints, as to have led us to test for the presence of sugar—still it is probable, from its low specific gravity, that the due quantity of urea, and other solids of the urine, was not eliminated; and thus the blood, and the various organs, were poisoned at the same time that they were imperfectly nourished. And this twofold aberration from the healthy standard—this actual poisoning, as well as imperfect nutrition of organs—this nourishment by not only a poor but a poisoned blood, which inevitably results from chronic renal disease—explains how a category of symptoms similar to those above detailed may arise from a particular state of the kidneys. I do not say that these symptoms may not occur in cases where there is no kidney disease, but I do say that, in a considerable number of cases in which they are present, kidney disease will also be found.

The circulation was feeble, the pulse small and weak; but the heart's impulse was strong, and was felt over a greater surface than was natural. There was, however, no correspondence between the heart's force and that of the pulse, nor was there evidence of any valvular disease. At no time was there much dropsy. It never exceeded a moderate anasarca of the legs and a slight puffiness of the face.

This man continued in the hospital for four months with scarcely any variation in his symptoms. He complained constantly of more or less headache, referred for the most part to the vertex, was always more or less lethargic, slept a great deal during the day, and always heavily at night, but was frequently woke up by frightful dreams. He was often sick, and vomited his meals. He had no paralytic symptom, except a numbness of the left side of his face, and a similar numbness of the little and ring fingers of the left hand. Up to the day of his death he continued to pass pale urine in considerable quantity and never exceeding 1012 in specific gravity, and always containing a very notable, although not a very large, quantity of albumen.

For some days we compared the quantity of urine which he passed with the quantity of his drink, and found that they maintained a pretty close relation,—sometimes the latter exceeding the former; at other times the reverse; but in either case the difference was never more than from half a pint to a pint.

You will remember—those of you, at least, who are accustomed to accompany me through the wards of the hospital—that I had no difficulty in saying that the disease was renal, and in indicating of what sort it was. I told you that the kidney was contracted, shrivelled up, from the atrophy and obliteration of numbers of the uriniferous tubes, altering the relations of the tubular and intertubular structures, creating congestion in patches and obliteration of some vessels, and interfering with the healthy formation of epithelium. This diagnosis rested upon the absence of more decided symptoms of brain disease than the pain, the lethargy, and the numbness of one or two parts, and upon the known sufficiency of renal disease to disturb the nervous system in the manner and to the extent to which that disturbance existed in our patient. It was likewise indicated by the peculiar complexion of the patient (no hæmorrhage having taken place from any other organ than, perhaps, the kidney), by the presence of albumen in the urine, by the dropsy, and by the large quantity of urine passed.

This last symptom, with the pretty uniform specific gravity of the urine, the small amount of albumen, and the moderate extent of the dropsy, led me to infer that the disease was *contraction* of the kidney, due to a chronic degeneration of that organ. In the large kidney, which owes it enlarged condition to the deposition of fat in the epithelium cells, and in that which is enlarged by the undue formation of epithelium to the distention of it within the tubes, the quantity of urine is deficient in quantity; it has a decidedly smoky hue, generally contains blood, and always albumen in large quantity, often as much as in the serum of the blood.

The diuresis which is often present in these cases, and which was so marked a feature of that which we are now considering, is explained by the condition to which the renal structures are reduced as the result of chronic disease. The tubes being stripped of epithelium and consisting solely of basement membrane, admit of an abundant percolation of the watery part of the secretion throughout their whole length, which, if they possessed the healthy amount of their epithelial lining, would occur only at the Malpighian bodies. This great discharge of water was, however, a most fortunate thing for our patient, for it enabled him to get rid of a much larger amount of solid matter than he would otherwise have been able to do. Had this free excretion of water been checked at any time, serious symptoms would no doubt have instantly shown themselves in epilepsy or coma. By Mr. Beale's analysis it appeared that shortly after his admission the urine contained twenty-one parts of solid matters in a thousand, and these solid matters themselves consisted chiefly of *albumen* and *extractive matters*, whereas half that quantity at least ought to be urea. Nor would the increased flow of such urine as he was passing carry off a sufficient quantity of the organic and saline constituents to purify the blood. On the contrary, the large amount of solid matters excreted, about 1800 grains per diem, instead of about 1100, injured the blood as the nutrient fluid of the system, by depriving it of so much albumen. Still you can readily understand how even a slight check to the renal secretion would prove mischievous by diminishing still further the small amount of excretion of the proper organic matters of the urine.

The prognosis of a case like this is always unfavourable. If the secretion is copious, the patient may linger on for some time, as happened in the present instance; but if the secretion is interfered with, the patient will presently die. And although in our patient the flow experienced no diminution, he died suddenly, although I cannot say unexpectedly, the manner in which he died differing somewhat from that of many other cases of the same disease. For some time previous his symptoms had been getting more aggravated; he had become more drowsy and lethargic, more doughy-looking and blanched, and the dropsy had gained on him, although not to any great extent. One night, without, however, having had any premonitory symptoms, he suddenly became comatose, breathed with stertor and puffing, his pulse became slow and languid, his respiration interrupted with increasing intervals, till it gradually and finally ceased. There were no convulsions. The time from the first access of the coma to his death was not more than a quarter of an hour.

The manner of death showed that it was owing to some change in the brain; and the short duration of the coma, and the speedy supervention of death, would go far to localize the lesion. Of this supposition the post-mortem examination was quite confirmatory: the following were the conditions that it revealed:—On opening the cranium the membranes were found quite healthy: on removing the brain a clot was found in the fourth ventricle, which proceeded from the left lobe of the cerebellum, having broken down the substance of that centre to enter the ventricle. The blood had passed through the iter into the third ventricle; having filled which it passed on either side, through the foramen of Monro, into the lateral ventricles, which it traversed, following the course of the choroid plexuses, and finally descending into the inferior cornua. The blood had coagulated into a firm, coherent clot, so that the whole could be taken out as a mould of the cavities and connecting passages. The choroid plexuses were lying on the inside of the clot apparently healthy. The anterior cornua were filled with serum. The hemispheres of the brain were healthy.

Now I think, in all cases where death supervenes very speedily on apoplexy, the clot will be found in a similar situation to this, involving, if not confined to, the mesocephale. Death is the more speedy the nearer it is to that important and central portion—that nucleus of the brain. Upon this subject I have so often had occasion to descant, that I need not dwell upon it now. I shall content myself with having drawn your attention to this point as a result always to be expected in apoplectic effusions.

I may also refer you to a symptom which occurred in this case, and which is, I think, a very fatal symptom,—namely, flapping of the cheeks in respiration. It is due to paralysis of both the buccinator muscles, and is the result of great compression of the brain, or of compression of it near the centre of respiration, which is also the seat of implantation of the facial and fifth nerves upon which the action of these muscles depends.

The kidneys which I show you here were found in exactly the state which I described to you. Observe the surface, how shrunk, granulated, and fissured it is, and, on cutting it, how the organ is wasted, at the expense chiefly of the cortical substance. On a microscopical examination it was found that the tubes were stripped of their epithelium; in some parts the cells were filled with fat, but the great character of the epithelium was its scantiness and its imperfect organization. The thinness of the walls of the uriniferous tubes, as I have already explained, was favourable to the secretion of water, but not of organic matter, which is separated solely by the agency of the secreting epithelium; the former, holding albumen in solution, was therefore carried on with an energy proportional to its abundance, but the organic constituents of the urine would be secreted only in proportion to the quantity of epithelium existing in the kidney.

Coupling together the clinical history and the morbid anatomy of the case, there can be no doubt that the state of brain was dependent on the state of the kidney; and, had it not been for what we may call the *accident* of the apoplexy, the patient might have lived on for some time longer, might have had several epileptic fits, and have probably died in one of these, or from the exhaustion which follows such attacks.

Taking together the state of the kidney and the state of the cerebral function, nothing can be clearer than this class of cases, but, putting the state of the kidney out of the question, nothing can be more obscure. There is no doubt that the kidney is the *primum movens:* the blood becomes poisoned; this poison interferes with perfect sanguification, a poor nutrient fluid is carried to the brain, which becomes, as a consequence, ill nourished: add to this the actual presence of urea, and other solids of the urine, in the brain, and we have quite sufficient to account for all we see.

In the treatment of this case there was really little to be done. It is not improbable that, by the frequent blistering of the neck and scalp, and other means of counter-irritation employed, such as the long issue in the scalp, we may have retarded the mischief within the cranium and prolonged life somewhat; but otherwise I do not see that we have any right to take much credit to ourselves for any benefit the patient may have derived. This is one of those maladies which, the more we know as to its intrinsic nature, the more we feel the impotence of our art to effect a cure. And so far, indeed, ignorance would have been bliss; in a certain sense, if it be not folly to be wise, our increased wisdom is attended, at least, with results less flattering and agreeable to our vanity. Still the knowledge of the disease—a correct diagnosis—no doubt saved the patient from many blind and hap-hazard trials of remedies, which might have diminished his strength without any promise of good.

Another case, that has recently come under our notice is, in one point of view, illustrative of what I have already said, as regards the occurrence of cerebral symptoms without cerebral lesion, and it is also interesting on its own account. It is that of "Margaret Beasely, æt. 37, a native of London, where she has always lived; married, and has five children; of very intemperate habits, being much addicted to gin-drinking; in appearance thin and haggard, looking much older than her stated age; very weak and restless; her manner nervous and agitated, and says she has not slept for a considerable period; tongue somewhat furred, tremulous; pulse large, soft, not frequent." She had psoriasis diffusa on the back of both hands, for which malady, and for her general cachectic condition, she was sent to the hospital. She was admitted on the 1st, and in the course of that night," the account goes on to say, "in no part of which had she slept, she was seized with furious delirium, and talked loudly and coarsely. By the negligence of the night-nurse the house-physician was not called up; but on visiting her the next morning, she was found in a state quite resembling delirium tremens, suffering from various hallucinations of black-beetles, black men, and especially policemen, whom she appeared to hold in great horror. She was put under the influence of stimulus—brandy, porter, and opium, but without any effect, and she became so violent that it was found necessary to remove her to another ward, and employ a straight-jacket."

Now I cannot help remarking here, as I pass, that in your practice the use of the straight-jacket should always be a last resource. If you cannot get a sufficient number of attendants, and there is danger of the patient doing himself injury, then it is absolutely necessary, and you have no choice; but it should be avoided if possible; it creates opposition, exhausts and excites the patient, tends to prolong the delirium, and in every way does him injury. Remember, I do not say *never* use a straight-jacket, but make its *necessity* the rule for its use; for in many cases it would be highly dangerous, and even fatal to the patient's life, to dispense with it.

But to return to the history of the case. I said her delirium resisted the opium and stimulus. It lasted till the night of the 4th, when she got some sleep, and from this time to the 8th she rapidly improved, but on that day she began to squint. The report of the 8th says—"The patient appears the same in every respect as when last reported, except that she has a slight but distinct internal strabismus, affecting principally the left eye: pupils rather dilated, but both exactly alike. She is much agitated at this uncomfortable symptom, but her agitation has not at all the appearance of delirium tremens. She states that, when she looks at an object with both eyes, it looks indistinct and double, and she is totally unable to distinguish the distances and relations of surrounding objects: when, however, she covers up one eye, and it does not matter which, the vision is perfect."

She continued to improve, with the exception of the persistence of the strabismus, till the 12th, when she was taken back to the Augusta ward. Here she became delirious again, but the delirium was not violent; it was low and muttering: the squinting increased. The report of the 14th is as follows:—"The patient is a good deal weaker to-day: the squinting remains the same as when last reported. She is agitated, and rather more delirious, and the delirium is of a lower character, but not resembling delirium tremens in the least: pulse 110, weak: passes her motions under her. She has a good deal of bronchitis, diffused pretty generally over the chest; she coughs a good deal, but does not spit up the mucus: this, as well as passing her motions under her, is more the result of listlessness than any inability of exertion: in fact, she passed quickly into a typhoid state."

In the evening of the 14th she seemed to rally a little, but about one o'clock on the morning of the 15th a change for the worse took place; she became comatose, which state gradually increased, and she died about half-past seven in the morning.

This woman was examined, and the chief reason why I have called your attention to the case is, that I think you will find nothing in the brain to account for the symptoms. I was at first suspicious, from the suddenness of the accession of the typhoid symptoms which came on at last, that she was suffering from purulent infection, that pus had formed somewhere, and had passed into the circulation. And this impression was the stronger from the resemblance of her symptoms to those of a woman who had been in the hospital some time ago. She was under treatment for chronic bronchitis, and was going on tolerably well, when one day she became rapidly typhoid, with low delirium, her tongue furred and brown, and full quick pulse. This state continued for two days; then sudden coma came on, and she died. We found, on examining the body, an abscess in the septum of the heart: this had burst, and discharged its contents into the circulation. In many of these cases, if the patient does not die immediately, you get deposits in different parts of the body, particularly in the joints; but in such a case as I have related there was no time for such secondary abscess. Among puerperal women we may often meet a case of this kind. Thus a woman has been safely delivered, and everything seems to be getting on well; you visit her in the evening, and find a little uneasiness,—you order her bowels to be cleared out; the next day you find her sinking,—it may be, dying,—and she may die within four-and-twenty hours of the first accession of the unfavourable symptoms. If you examine the state of the veins of the uterus, you will find the explanation—the woman had uterine phlebitis, and pus in her blood: these are cases that occur in the practice of every man.

But in this case we were not able to discover any source of purulent infection. Here you see the brain: you perceive that it is decidedly paler than natural, and that those red points, which are produced by cutting across vessels, on slicing the white substance of the hemispheres, are perhaps too numerous and too large. With these slight exceptions the brain and its membranes seem perfectly healthy in their structure: there are no unnatural appearances; there is no evidence of any distinct lesion. And this is a point that I am most anxious to impress upon you,—that the delirium does not necessarily connect itself with any actual disorganization of the brain or its membranes, nor does coma either; but both these formidable states may take place in a brain that shall reveal, on the minutest scrutiny, no appreciable aberration from the natural standard.

Now let us ask, of what did the woman die? I have already told you of my suspicions regarding purulent infection; but this must be abandoned, from our having failed to discover any purulent formation. I incline very much to think that the patient was not benefited by having been moved from the separate ward at the time she was brought up. She had been in a very exhausted state during her delirium: from this she had recovered to a great extent, and then she was moved up several flights of stairs to another ward. The fatigue consequent upon this must have tended greatly to produce the typhoid state in which she died.

I have met with more than one instance of bad consequences following upon moving a patient in delirium, or just recovered from it, prematurely. About two years ago a man was admitted here for epileptic delirium. Finding that his delirium was very noisy, and disturbed the other patients, I had him moved into a separate ward, when he recovered from his delirium. He was moved upstairs, and shortly afterwards he became delirious again, and died comatose.

I am satisfied, from this and other cases, that there is nothing respecting which we need to be more cautious than as to moving patients either in or just recovered from delirium; even to move them from one room to another on the same floor is dangerous, still more moving to any distance, or to another floor. Let us take this case as a warning of the necessity of great caution and circumspection before we sanction the removal of a patient under such circumstances.

Original Communications.

CONSIDERATIONS ON THE CLIMATE OF ITALY,

WITH REFERENCE TO THE TREATMENT OF CHRONIC DISEASE.

By James Edward Pollock, M.D.,

Licentiate of the College of Physicians, and Medical Resident at Rome from 1842 to 1849.

No. V.

Perhaps there is no class of cases which benefits more by a removal to the South of Italy than chronic bronchitis; as by contriving the journey from England so that the patient shall arrive in October, the winter cough is avoided, and by a careful selection of locality, and a consideration of the dry or moist properties of the climate resorted to, permanent benefit is almost invariably derived. Where the secretion is not profuse, but rather a dry and irritable state of the bronchial membrane prevails, the climate of Rome is very beneficial. The absence of cough as a symptom is very remarkable there, as is well seen in the English church, which presents a great contrast to our London winter congregations, scarcely a cough being heard.

From our previous observations, which need not here be repeated, the reader will expect to learn that the only form of dyspepsia which is benefited by a residence in Rome is the "irritative" as opposed to the "congestive." For cases in which a dry, bracing, stimulating air is indicated, not only is no advantage to be gained, but great injury may result by their exposure to the malarious air. Chronic diarrhœa, *if permitted* to get well by an entire abandonment of drugs, some of the forms of pure gastralgia which do not depend on retained or morbid excretions, certain altered states of the intestinal mucous glands, and the irritable nervous affections of the stomach itself, very generally improve by a residence in Rome, especially if the medical attendant there be honest and wise enough to take advantage of the moral circumstances of his patient, and with the complete change in diet, hours, and habits, caused by the fact of his being there, insist on abstinence from all remedies, be they sedative, stimulant, or tonic.

The modifications of neuralgia which occur in the Roman climate are somewhat remarkable. The intractable nature of this affection, owing to the very varied causes on which it depends, often induces the practitioner to advise a removal to a warmer climate, when the patient has undergone the usual routine of treatment ineffectually. Although it must be confessed that its Protean nature almost defies any classification, founded on the efficacy of remedial agents, we have observed one or two guiding indications for its relief.

When its character is rheumatic, a residence in the South of Italy is undoubtedly often successful in removing it. If distinctly intermittent, we have frequently found it aggravated by a residence in the Roman plain, and would advise its treatment at home by the usual anti-periodic drugs. If dependent, as it often is, on a morbid state of digestion, bilious attacks from over-cramming preceding and accompanying the access, we are of opinion that the necessary alterations in diet, &c., can be more effectually carried out at home also.

The most painful and exquisite form, neither regularly intermittent nor rheumatic, if uncomplicated with any disease of bone, or alterations of the nervous structure, is very frequently relieved by a winter residence in Rome.

We need not here reiterate what has been so ably pointed out by Sir James Clark, that children of the strumous habit generally derive great benefit from passing two or three successive winters in Rome or Pisa. In a climate permitting such frequent exercise in the open air, with a mild temperature not very variable, and shelter from the north-east winds, the capillary and cutaneous functions are more active, lymphatic enlargements are less frequent, and the whole system is strengthened. At the same time, we would forbid a longer stay than that now stated, and would never advise that they should be exposed to the relaxing heats of an Italian summer. In almost every instance which we have seen of the children of English parents being permitted to remain for entire successive years in that country, they have lost strength, their colour has become pasty, the muscles soft, the abdomen distended, and the nutritive functions impaired. It may not be out of place here to give a caution very necessary to be impressed on parents who undertake a removal to Italy for the *physical* improvement of the young. They should not allow it to be an *educational* trip, nor be tempted by the facilities for acquiring languages, and the light accomplishments for which Italy is celebrated, to over-work the delicate frame whose very existence is threatened. Too often, when arrived at their winter quarters, the whole object of the journey is frustrated by the making use of an imaginary freedom from danger supposed to be conferred by the fact of their being in a southern climate, and hosts of masters are engaged, who confine the little shivering victims to their tasks in large, under-furnished and under-heated rooms, while a blue and serene sky is proclaiming Nature's invitation to activity out of doors.

Cases of chronic rheumatism are among those which frequently improve in Rome; but we cannot corroborate the views of writers who recommend that city as a residence to those of a gouty habit. The frequent coincidence of irritative dyspepsia in such cases might seem to warrant their removal to a climate known to possess a sedative influence on the mucous surface, but the facility with which congestions of the liver and kidneys are there produced seems to us a more powerful reason against it; and, so far as individual observation goes (which is more important than theory), we have found no occasion to believe that such cases have benefited by a residence in Italy.

The uterine function seems to be carried on with great activity in Rome, as well in the native as in the English constitution; and cases of amenorrhœa and of dysmenorrhœa derive great benefit from a residence there. A notice of this fact induced us to make particular inquiries on the subject. The absence of the catamenia is exceedingly rare among the Roman women, the deviations from the normal state almost universally taking place on the side of over-action. A recurrence of the menstrual flow once a fortnight is very common, and the corresponding function of lactation is carried on with a degree of activity and for a period of time very unusual in England. We have often had occasion to notice a great strengthening of the uterine powers, as evidenced in their more regular and uniform action, and the abundance and healthy appearance of the secretion, in the young English female in Rome; and, were it not that a single experience must be very limited in such cases, would further add that conception takes place more readily, even in those whose age and constitution appeared to forbid all hopes of a family.

With these remarks we are forced to conclude the list of affections which it may be advisable to remove to Italy. It will be seen that we have limited the cases of phthisis which appear to derive benefit from that climate to two: the one the early and scarcely developed period of the disease unaccompanied by much irritative fever; the other the advanced stage of the disease in individuals past the age at which it is usually so destructive, who have not derived it from an hereditary source, and whose system has already exhibited a certain degree of tolerance of the morbid state. It may be replied that the latter consists of individuals who would linger on any where under conditions tolerably favourable to health. But we have not found it so; as, to our own knowledge, many such have only found the disease checked for the first time by a residence in Rome, and others have returned to England and got worse there, till the recurrence of many urgent symptoms has rendered a second journey to a milder climate necessary. As we are most anxious not to mislead the profession on this point, it is necessary to state that the cases of this kind which have fallen under our observation are few in number; but we can, from careful notes made at the time, and the study of the same cases from year to year, seen at one time in England and again in Italy, bear testimony to the fact that there are such. As the circumstances of the entire English invalid population in Rome were generally well known to all the medical residents there, we have also the evidence of cases not under our immediate care, and should not perhaps overstate the numbers in saying that, for the last seven years, each winter would furnish about six such invalids, whose physical state was accurately diagnosed, and who derived positive benefit from a prolonged residence in that city. The class which comprises those threatened with, or in the earliest stages of, phthisis, and who have been found to improve from the change from England to Italy, are much more numerous, and their selection does great credit to the improved powers of diagnosis, and the accurate knowledge of the state of health fitted for such a removal, of the profession at home. For them these remarks were written, and to them these statements will not, it is hoped, be unacceptable. It will be seen that their tendency is to narrow the circle in which those eligible for a long and trying journey are to be found: but to point out a few cases in which wealth may be spent to advantage in suspending or palliating the inroads of a formidable disease. Change of climate can no longer be held up as a panacea for the various forms of consumption depending on infinitely varied causes: a cure by such a remedy is impossible; even palliation, in many cases, is not found to be the result of much toil,—the breaking of many near ties,—the expenditure often of hard-earned means, which might have been better employed by their owner in securing for him at home the necessary repose from labour, or in leaving objects of deep concern, who may survive him,—in a state which would not require the expenditure of health and spirits in the toil of acquisition. We thus render a service to humanity in checking the flow of emigration in search of health, and restricting it somewhat to those blessed with affluence. Surely our clergy, and the members of our own overworked profession in particular, and many others in the middle classes of life, who are daily victims of the study or the counting-house, might be removed from the most prominently pernicious influences, which are laying the seeds of death, without sending them to so great a distance from home. Against such influences it is the true province of our profession to combat. It is far nobler to be preventers than curers, and far safer, too; and until, as Sir J. Clark well remarks, "the tubercular affection of the lungs which constitutes the essential character of what is commonly termed phthisis, is considered in its true character as the *last stage* of a disease, as the result of a morbid state of the system which in its progress might often be cured, but which, in this its termination, is scarcely to be remedied, we must still continue, as heretofore, little better than idle spectators of the ravages of a disease, which destroys one-fourth of our population, and numbers among its victims a large proportion of the best and fairest of our youth."

The summer climate of Italy deserves to be shortly noticed. It constitutes, in fact, the Italy of the poetical imaginations to which we have alluded, and has heat and sunshine and calm nights of great beauty, and in some parts many months pass lazily over without any rain. We have passed a summer in each of the localities which are at all frequented by our countrymen: in the neighbourhood of Naples; on the Lake of Como; in the villages adjoining Rome on the Alban Hill; in Florence, and at the Baths of Lucca. The last is the only place much resorted to; its summer population generally amounting to two or three hundred. A few individuals only are found in the others. The great objection to Italy as a residence in summer is the heat, which proves exceedingly relaxing to the English system. At La Cava, which, for its coolness, offers the most eligible residence near Naples, and is situated at twenty-seven miles S. E. of that city, we found the average temperature day and night to be 84°. At Como (in the Tremezzina, near the junction of the two branches of the lake) it was 80°: and this was during the months of July and August. In June and September the temperature is many degrees less and much more variable. At the Baths of Lucca the heat is more moderate than in any other part of Italy, and the nights are cool.

The kind of life necessitated by such a climate is one of great indolence. Muscular activity is not sustained with pleasure, the early morning walk, before the sun has attained its strength, or the evening's saunter when he has set, being generally as much exercise as is agreeable. During the long sunny hours, doors are closed, windows darkened, and repose, or the lightest occupations of dreamy idleness, fill up the sultry noontide. The evening walk or ride is delicious; but the sunset hour is fraught with danger, the change of temperature being sudden and very great. An hour after, a feeling of genial warmth returns, and even invalids may be out with safety, unless (as at the Baths of Lucia) where the vicinity of mountains gives a dampness to the air. The prevalent diseases are inflammatory and febrile, and bilious derangements of lesser intensity. We have rarely seen the consumptive benefit much during the Italian summer, as its relaxing effects are felt severely, when, although the cough may be mitigated, the appetite fails, and perspirations exhaust the system. The dyspeptic are wholly unfitted for an exposure to physical influences, which depress the muscular and nervous powers, congest the liver, and take away appetite. To those whose average health permits of a trial of the languid life here described, there are beauties in the atmosphere, on the earth, and in the sky, which will repay the leisure expended on it; but for medical purposes, we know of no case in the English constitution which can be benefited by four months spent under a sun which relaxes the northern frame and congests some of the vital organs, while it overworks others. To these considerations must be added the exposure to the chances of dysentery, which is always epidemic in the autumn, and of the still more formidable gastric fevers of Italy, which are much more prevalent in the summer than during the winter months.

The liability to fever even during the winter season in Rome has formed an argument against sending English invalids to that climate; but the danger has been much exaggerated, the cases being rare, and almost uniformly due to imprudence and neglect of the precautions which ought to be observed in a country where such affections abound. It is true that no winter passes in Rome without fatal cases of intermittent or gastric fevers occurring among the English population.* They are generally the result of country excursions, when the party has dined "sur le gazon" in some picturesque spot, probably surrounded by ruins and overrun with a wild vegetation, springing from a soil long uncultivated, and of the peculiar porous, volcanic structure, which readily admits of emanations; or a chill caught by sitting in the shade after exercise in the sun in one of the cold, vault-like churches, or some of the great galleries, which are the fertile source of such attacks; or on leaving the crowded "salons" of the Roman Princes, so celebrated for hospitality, will give rise to long and intractable fevers. But, with a knowledge of these dangers, the invalid need not be exposed to them, and they are only mentioned here as we are aware that the chances of their occurrence has prevented some of the profession at home from sending cases to Italy, for which the climate has otherwise appeared suitable. *With ordinary care, they may be avoided in all cases;* and when to these considerations we add the fact, proved by observation, that all the epidemic diseases (excepting small-pox, which, from the neglect of vaccination, has become a scourge to the native population) are more mild in Rome than in England, and that typhus is almost unknown there, the chances of febrile affections arising from causes extraneous to the system may be said to be less in Rome than in England.

We would conclude these papers by offering a few remarks on the directions to be given to patients proceeding to Italy. On the selection of the cases it would be superfluous to dwell further; but as the advantages to be derived are in direct proportion to the cautions observed, it is of importance to bear the latter in mind. For the phthisical in the early or threatened, as well as in the advanced stages of the affection, where a certain degree of tolerance of the disease has been attained, an observance of the general rules of health is imperatively necessary; and it is the duty of the physician to explain beforehand that the proposed journey gives no immunity from danger if these be neglected. The surface should be carefully guarded from sudden changes of temperature by warm under clothing, which should in no case be abandoned on arrival in Italy. The cutaneous surface should be strengthened by daily sponging with vinegar, followed by frictions with warm flannel: the diet should be light and nourishing, and stimulants should be avoided even more than in England. Let it, above all, be impressed on the patient that one principal object of his journey is to make use of the facilities afforded by a milder climate for being *much in the open air* and in the bright sunshine, for which he has left our gloomier skies. The influence of *solar light* has not been sufficiently regarded, and yet that it has powerful effects on the animal economy both analogy and observation concur in proving. In plants it is intimately connected with the decarbonising process, and its relation to that portion of vital chemical actions in animals is well seen in the proteus, which, when kept in darkness, retains its gills during the whole of its existence, the lungs being at the same time developed, as if the absence of the stimulant of light necessitated a double apparatus for the depuration of the blood. The evidence of experiment is still wanting to determine its exact effects on man; but while analogical reasoning leads us to believe that it must be an important assistant to the lungs and skin, observation furnishes ample ground for ranking it among the sources of relief to the system when either of those two great exhalants of carbon become insufficient from disease to relieve the blood from its accumulation. We all feel the influence of sunshine on the spirits, and the elastic feelings due to bright days, as they are visibly shared by animals not gifted with imagination, and are incapable of being produced by any degree of artificial light, must be due to a certain extent to a chemical or other influence affecting the vital actions constantly proceeding in the human body, the perfection and harmony of which constitute our feelings of health and enjoyment.

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* At some future time we purpose offering some observations on some of these affections which possess peculiar interest for the pathologist; but anything more than a mention of them as a danger to which the traveller is exposed would be out of place here.

The mention of the bright skies of Italy involves a caution most necessary to be impressed on the invalid. The *shade* is to be avoided, especially after exposure to the sun, and the *hour of sunset*. In Rome, as in most other Italian cities, the streets have been carefully constructed to ensure shade; and it is the boast of the natives that one may walk from the Pincian Hill to St. Peter's (*i. e.*, from the English quarter to the place of most frequent resort of the English) without going into the shade except when crossing a bridge! The streets must therefore be avoided, as also the palaces and galleries of art and the churches, and an observance of these exceptions does not cut off access to objects of great interest—the ruins scattered over "the seven hills" can be visited without passing through the cold streets: the sheltering walls of the Coliseum, the Baths of Caracalla, the Temple of Peace, and the Forum itself, together with the great plain surrounding the city scattered over with tombs—all offer the desired physical advantages, and a living page of history rich alike to the eye and the imagination.

The exposition of the house selected as a residence is also of great importance. Unless it be sunny—that is, with a southern or south-western aspect—it is of necessity cold and often damp; and to this consideration may be safely sacrificed many others which have apparently greater reference to comfort. It is needless to observe here that invalids of this class must avoid the evening receptions and amusements of fashionable society.

The general management of the dyspeptic invalid has received great attention, and to the host of directions given in all treatises on the subject we are not desirous of contributing, but in connection with the remedy of travelling so often advised would offer an observation. It is very true that change of air, of habits, and of diet, the relinquishing of the cares of home and of business, and the resolution to make holiday, have often most powerful effects *per se* on the jaded system worn down by the sins of years against the most important rules of health,—and, must we add, by a too frequent resort to art and its appliances, instead of a return to an observance of Nature's own laws. Still further, it is a convenience to the physician, who has exhausted all the alleviating effects of drugs, to get rid of the importunity which demands from art what art has not to give, unless Nature's inflexible requirements are first regarded, by proposing to his patient to travel; and very generally, in accordance with his own honest convictions, he will advise him *to live without rules*. All this sounds well, but what is the result? Freed from an adherence to laws which, with the childishness from which no class is exempt, he insists to himself were made by the physician, and not by a higher power of which we are but the humble exponents, this man without rules starts on his tour, of which we shall trace an outline Recovered from his seasickness, he reaches Paris, where the novelties of French cookery are tried; and, like all novelties taken under the influence of excitement, digested for the first time, or rather tolerated; and, by the time the unassimilated products of a few meals in the Palais Royal begin to ferment in the system, he is on his way to Marseilles; and tasting a new French wine daily on his way through the Rhone district, he embarks for Italy, where the sea again becomes "kind Nature's sweet restorer," in preparation for a new stratum of Italian cookery. Here the doughy bread, made without barm, gets the credit of an "intestinal war" caused by two daily heavy meals of soup, boiled, roast, fried, and sweet courses without end; the intervals filled in with the "fonghi" (fungus) for which Genoa is celebrated, the "sardines" of the Mediterranean, the tempting cheese of Parma and Milan, and (should they be in season) by grapes whose profusion tempts to excess—the luscious fig of Provence, and the cool melons which excite both the eye and palate under a southern sun—the whole diluted and fermented with wines of new names and puzzling variety, which have all to be tasted, and the repast eked out with "café noir."*

It is truly not marvellous if, after this, the man without rules arrives at Rome to find that he must have a doctor and a dose—aye, and subsequent imperative rules—for which he curses the profession, exclaiming that we are the same everywhere! It is to be hoped that we *are* the same, and that none among us will ever preach the doctrine that a natural law can be violated with impunity because the soil and sky are changed, the man remaining immutably subject to a detective system of Nature's own admirable construction, making the forbidden indulgence ever carry its own penalty attached. The picture here drawn is not imaginary, but of very frequent occurrence. Nothing is more common than for a patient just arrived in Italy to plead the recommendation of the home physician, that he should eat fruit and use light wines as a substitute for his daily pill, to excuse indiscriminate excess in quantity of every novel luxury of the table. And yet these are the individuals who have been wisely advised to allow the natural stimulus of a new kind of diet taken in moderation to replace medicinal remedies.

With these remarks we conclude our observations, conscious that but a few points have been touched upon of the many which are of interest in the question of the possibility of relieving or retarding chronic affections by a journey to a southern climate. Such success as we have seen to result from the experiment we have recorded; but this is not equal, on the whole, to the disappointment which we have witnessed in others, and felt ourselves, when the remedy from which so much was expected has proved ineffectual.

Chandos Street, Cavendish Square.
January 5, 1851.

A PETRIFIED BEAN IN THE URETHRA—REMOVAL BY INCISION. BY DR. LEOPOLD, OF MEERANE.

On the 16th December, 1848, Dr. Leopold was summoned to a child, four years of age, suffering under the symptoms of stone in the bladder. The father obstinately refused to permit a catheter to be passed; internal remedies were therefore administered to endeavour to allay his sufferings, but in vain. Examination by the rectum failed to give indication of stone in the bladder. A hard substance, the size of a bean, could be felt in the urethra behind the scrotum, and could be moved only very slightly backwards and forwards. The catheter, when at last allowed to be passed, was stopped by this body. An operation was at length determined upon, with the father's consent. The patient's legs were tied as for lithotomy, and an incision made down upon the stone, which, when removed, was found to be a calculus, having a common bean for its nucleus. The child had complained of pain and difficulty in micturition since the preceding Easter. It is probable that the child had passed the bean into its prepuce, whence it had slipped into the urethra and bladder.

In another case Dr. Leopold found a small calculus in the urethra, and was able to push it forward to the orifice of the urethra, which being enlarged by a slight incision, the calculus was readily removed.—*Casper's Wochenschrift*, 1850.

⁂ It seems scarcely possible that so large a substance as a bean could have slipped into the orifice of the urethra of a child, four years of age. It would almost lead one to suspect that a second party must have been herein concerned. The necessity which existed for enlarging the orifice of the urethra in the subsequent case tends to confirm this view. X

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* For a handbook for invalids of this class, see Valery's "Italy Comfortable!"

DEEP PENETRATING WOUND OF THE CALF OF THE LEG,

BY A REAPING-HOOK, FOLLOWED BY PROFUSE HÆMORRHAGE.

OPERATION:—*Exposure of the deep parts showed complete division of the posterior tibial nerve and artery, with wound of the vein; ligature of both artery and vein.* DEATH in 48 *hours from exhaustion.*

BY E. L. HUSSEY,

Surgeon to the Radcliffe Infirmary, Oxford.

ISAAC CARTER, 66 years of age, five feet four inches in height, with grey hair, of spare make, and of general feeble appearance, was admitted into the Radcliffe Infirmary, Oxford, about one o'clock on Monday, 12th August, 1850, with an incised wound recently inflicted on the middle of the back part of the left leg, extending in a transverse direction about two inches, penetrating deeply into the muscular substance. He was at work reaping in a field about three miles distant, and the man next to him accidentally inflicted the wound with his "fagging hook." Very great loss of blood followed immediately, which the bystanders made ineffectual attempts to stop by tying handkerchiefs round the limb: with some delay they put the man into a cart and brought him to the Infirmary.

The house-surgeon, Mr. Briscoe, removed the handkerchiefs, when a large amount of clots was discharged from the wound, followed by a gush of arterial blood. He passed his finger into the wound, and found that it extended upwards, farther than the finger could reach, on the tibia and interosseous membrane, under the deep muscles. As I was present in the Infirmary I went to his assistance. The man was evidently suffering from great loss of blood; he was gaping and throwing his arms about, restless, and quite unmanageable. It was clear that some deep-seated vessel of magnitude was wounded, which it was imperatively necessary to secure; and as it did not seem prudent to wait, I proceeded to search for it, without sending to Mr. Hitchings, whose week of attendance it was.

A tourniquet being thrown round the thigh, and the man placed on his side, with the limb partly flexed, I made an incision about four inches long through the skin upon the inner edge of the gastrocnemius, over the course of the posterior tibial vessels, meeting the tibial extremity of the transverse wound at about a right angle, and, dividing the other tissues interposed, came at once upon the posterior tibial artery, both ends of which were seized and tied without difficulty: the distal extremity, though easily recognized, was not bleeding. The artery, as well as the nerve, was completely divided by the original injury. The clots in the wound were then turned out, and some muscular branches which seemed inclined to bleed were next tied. Profuse hæmorrhage still continued with violence, but of a dark venous character, welling up from the bottom of the wound; this, however, became lessened on removing the tourniquet. To get at the source of it I enlarged the wound upwards toward the knee, and some bleeding points were tied upon a tenaculum,—an operation of great difficulty, from the patient's restlessness and the depth of the wound. One vein, larger than the rest, and apparently in close connection with some tendinous structure, seemed to be wounded at more than one point. Ultimately the hæmorrhage was stopped by passing three ligatures, at intervals of about half an inch, under this vessel and the surrounding tissues by means of a needle in a firm handle. The wound was drawn together with strips of plaster, a compress of dry lint placed on it, and the whole secured, and even pressure maintained by a bandage round the leg; and the patient, cold and perfectly pulseless, replaced in a blanket in bed. Wine and brandy were administered freely during the operation, and on his return to bed he was supplied well with hot brandy and water.

About 9 o'clock at night Mr. Hitchings saw him: he was then warm; the pulse was weak, but distinctly perceptible at the wrist. The finger placed on the dorsum of the foot distinctly recognized, for the first time, the anterior tibial artery: the posterior could not be felt. He was still as restless as ever, throwing himself about, and with difficulty kept in the bed: he had twice torn the bandage off the leg, without, however, any return of hæmorrhage. The muscles could be seen acting spasmodically under the bandage. A drachm of Spiritus Etheris Sulphurici Compositus, with forty minims of Vinum Opii, was administered in Mistura Camphoræ: it was speedily vomited, when a grain and a half of Opium in substance was given and retained. He continued very restless till toward three o'clock in the morning, when he went off to sleep.

The next day he seemed on the whole in a favourable state, and apparently had rallied well from the first effects of the injury and the subsequent operation. The pulse was still very weak and rather quick. The bowels had not acted, and he had not passed any urine. The dressings being saturated with blood (caused by his kicking about in bed), and smelling offensively, I removed them, and applied fresh. There was a slight watery discharge from the wound, scarcely tinged with blood. During the day he took beef-tea with a relish, and brandy and water. In the evening the house-surgeon drew off about half a pint of urine with the catheter.

He passed a quiet night; but in the morning (Wednesday, 14th) it became clear that he was sinking: he became weaker rapidly, and died quietly about eleven o'clock, forty-eight hours after receiving the wound.

The body was examined twenty-six hours after death. The transverse wound inflicted by the reaping-hook was two inches in length; the incision I had made was five inches and a half, the upper extremity of it being on a level with the tubercle of the tibia. The ligatures were correctly placed on the divided extremities of the posterior tibial artery. The vein round which the three additional ligatures had been placed was one of the venæ comites: the tendon of the plantaris muscle lay immediately over this, and thus appeared to have caused the chief difficulty in applying the ligatures; division of it would no doubt have rendered the operation more easy of performance. The viscera of the abdomen seemed healthy; on the left side was the sac of a femoral hernia, for which he had undergone operation in the Infirmary in January 1849. The head and chest were not examined

Remarks.—This man's death clearly arose from the great loss of blood he had sustained before his admission into the Infirmary, and which hindered a man of his age and constitution from rallying from so severe an injury.

After making the necessary dissection to expose the artery, it was secured with ease; the deep muscles, having been divided by the reaping-hook in its passage to the interosseous membrane, had retracted somewhat, carrying with them the extremities of the divided artery, which were nearly an inch distant from each other. This retraction probably—aided by the man's flagging circulation after the hæmorrhage—alone saved him from immediate death. The hæmorrhage which continued was chiefly venous. The interosseous membrane had turned the point of the reaping-hook upwards toward the knee, and thus protected the anterior tibial vessels from injury.

The chief point of interest in the case is, that it shows with what ease the posterior tibial artery may be exposed when necessary, in the upper part of its course, by cutting through the muscles covering it; and the unfortunate termination of the case does not seem a sufficient reason for withholding the publication of it. The operation, I venture to suggest, may be done by cutting upon the edge of the gastrocnemius, and then through the substance of the soleus, with less difficulty—as it seems more directly in the course of the vessel, which there lies at less depth—than by cutting, as proposed by Mr. Guthrie, through the belly of the gastrocnemius as well as the soleus; though that operation seems more practicable than the older mode of cutting upon the edge of the tibia, and reflecting the muscles attached to it, notwithstanding the preference given by Dr. Harrison of Dublin. This mode of operating was suggested to me some years ago by Mr. Coote. On the *dead subject* it appeared undoubtedly to be preferable, but I had not till now had an opportunity of putting it in practice on the *living*.

In 1845, a boy about 13 years of age was admitted into the Radcliffe Infirmary, under the care of Mr. Cleoburey, with a wound in some respects similar, which had been inflicted with a scythe. Hæmorrhage was effectually restrained by a compress and bandage, and did not return till two or three days after his admission. Mr. Cleoburey then made an incision about six inches long in the middle of the calf, and cut through the substance of the gastrocnemius and soleus both: the wound seemed too confined to enable him to reach the artery, and he then enlarged it in a transverse direction toward the tibial side of the limb, dividing the muscular substance: the artery was then found to be completely divided; both ends were secured without difficulty. The boy recovered rapidly, the wound uniting well with very little suppuration.

Oxford, January 1851.

AN ESSAY ON

UNHEALTHY INFLAMMATIONS.

By M. Broke Gallwey, Esq.
Assistant-Surgeon Royal Regiment of Artillery, Woolwich, Kent.

ERYSIPELAS.

Treatment continued and concluded—Dr. Robert Williams's practice by Port wine as a substitute for medicine—Mr. Travers's theory of erysipelas considered—the arguments which oppose his explanation of reflex nervous action, &c.

I have reserved Dr. Robert Williams's* views upon the subject in hand until the present stage of our inquiry, in that as I consider this by far the most important work which has appeared in any language upon the disease, so it might be *conclusive* in deciding the question now more immediately before us.

Speaking of the "predisposing causes," this writer observes, they are "age, mechanical or chemical injuries, certain articles of diet, the existence of disease *or any debilitating cause.*" "Indeed, it is curious how carefully the poison selects *the feeble and those broken down by disease*" (p. 260-61).

And under the head of "Symptoms" —"The fever, being formed, assumes the different stages, the various types, and, indeed, *all the customary phenomena of typhus;* for, there is the same affection of the head, the same delirium, the same increased pulse, the same augmented temperature, the same changes of the tongue, and, also, the same prostration of the moral and physical powers of life" (p. 271).

But, it is under the head of "*Treatment*" that Dr. R. Williams, bursting through the trammels of a long reign of prejudice, excites the interest and admiration of his readers, no less by the originality of his practice and the fearlessness with which he presses it upon the attention of the profession, than by the logical reasoning with which he upsets (and this, too, for the most part, out of their own facts and arguments) the doctrine of those writers who contend for the *sthenic* nature of erysipelas, and, for the antiphlogistic treatment consequent thereon.

"As far as my own opinion may weigh on this important subject, it certainly is entirely opposed to the practice of bleeding. During a period of three or four years, a large number of cases of erysipelas were treated in St. Thomas's Hospital by large bleedings; *and, the consequence was, a great mortality among that class of patients, and the production of a disease so contagious that it was difficult to eradicate it from the wards.*

"It is not pretended but many patients will recover,—some, perhaps, in consequence of, and others, probably, in spite of, bleeding; but, to determine the particular case in which bleeding is essentially necessary to the safety of the patient, has hitherto baffled all ordinary diagnosis.

"As an instance of the difficulty of forming a correct diagnosis in these cases, two patients were selected whose symptoms were as nearly the same as possible; they were both bled, and the one was benefited, and the other rendered much worse. Traumatic wounds of the scalp, followed by erysipelas, from the inflammation generally extending to the membranes of the brain, have appeared to be that form of the disease most likely to be benefited by bleeding.

"An *exceedingly promising case for this practice* occurred in a young man that had been wounded in the scalp by a blow from a policeman's staff. This patient was bled three times, a day being interposed between each bleeding, and each time to the amount of ℥xvj.; but, after each loss of blood, all the unfavourable symptoms increased, delirium supervened, and he died apparently in a much shorter time than if the disease had been left to itself. *I therefore rarely have recourse either to general or local bleeding in erysipelas; having, as I conceive, witnessed much mischief result from it, having lost several patients by adopting it, and having seen but little benefit produced by it. A long experience has con-*

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* Elements of Medicine—The Morbid Poisons. Vol. I.

firmed me in this view of the disease, and I feel satisfied that bleeding is not the rule of treatment in erysipelas, but the exception; and the having recourse to it in any particular case must depend on the judgment of the practitioner, and involves a great responsibility" (p. 282-3). (Italics my own.)

Dr. Robert Williams then pays a just tribute of praise to the treatment by bark, which Dr. Fordyce seems to have been the first physician to recommend, and which was almost exclusively relied upon in the management of this disease by Mr. Hunter, Drs. Wells, Powell, and Haworth. "The late Dr. Haworth," observes Dr. Williams, "also adopted the same treatment; but, on one occasion deviating from it and prescribing antimony, extensive ulceration, with sloughing, took place in the affected arm: and this was the only serious case I remember to have seen in his practice" (p. 283).

He continues,—"My own experience leads me to join with these physicians, and to adopt a tonic mode of treatment as *the great rule in idiopathic erysipelas.* But I have for some years abandoned the use of bark; for, I observed, when the patient was treated by bark, he did not become convalescent till his tongue had become brown, and, consequently not until he had sunk into a completely typhoid state—that lowest point of depression consistent with life, and at which the poison either ceases to be generated, or else the system is no longer sensible to its further action. At this point, however, but not before, the bark appeared to me to take up the disease; and the patient, in a very large majority of cases, recovered" (p. 283).

For the above reasons Dr. Robert Williams was induced to abandon the employment of bark in erysipelas, and to try the effect of *wine.*

"I have, therefore, after a considerable number of experiments, been led to the conviction that a treatment by wine is superior to that of bark, or to any modification of that treatment. The mode, then, in which I am in the habit of treating idiopathic erysipelas, *whatever may be the part affected, or with whatever symptoms it may be accompanied,* is as follows:—The patient is put on a milk diet, the bowels gently opened, and from four to six ounces of port wine, together with sage, allowed daily. This mode of treatment it is seldom necessary to vary throughout the whole course of the disease; for the delirium, if present, is generally tranquillized,—if absent, prevented; the tongue more rarely becomes brown, or, only continues so for a few hours; while the local disease seldom passes into suppuration or gangrene. In a word, all the symptoms are mitigated, and the course of the disease shortened. I have pursued this system for several years, and I hardly remember a case in which it has not been successful" (p. 284).

The following passage is of importance in connection with the advantages of wine over bark:—

"On comparing the effects of the treatment by wine with that of bark, the wine is much more easy of digestion; its effects are more transient; it has less tendency to affect the head or to disorder the bowels than quinine, and it likewise in no case reduces the patient to so low a state; so that there does not exist the same necessity for supporting him" (p. 284).

"The quantity of wine may appear small; but, as it is prescribed on the *very first appearance* of the disease, it is usually sufficient. Still, in a very few instances it may be necessary to increase it." (And, now, *mark* the following most important,—most striking declaration.) "This was the case with a young woman admitted only a few weeks ago into St. Thomas's Hospital with extensive inflammation of the face and scalp. Six ounces of wine daily were prescribed for this patient, and in this dose the disease showed a tendency to spread down the neck and shoulders; but, *on the wine being increased to eight ounces, the disease was at once arrested, desquamation ensued, and the patient rapidly recovered*" (p. 285).

But again—"A patient in Lazarus Ward was some considerable time ago seized with erysipelas of the face and scalp, and, to such a degree, that, taking it altogether, the countenance and head were more remarkably enlarged, swollen, and hideously deformed, than I recollect to have ever witnessed: *they were literally as big as a bushel.* Five grains of the sulphate of quinine were ordered for this patient every four hours, together with eight ounces of wine daily; and *under this treatment he recovered.*" (*Mark it,* ye blood-thirsty members of "our craft!") "About two years after, however, he was brought into the hospital with a similar attack of erysipelas, but, as was supposed, of much milder character. Under these circumstances quinine alone was prescribed; but, to our surprise, he rapidly sunk and died." Here follow immediately the histories of two other cases scarcely less striking than the foregoing, but which the limits of my paper do not suffer me to transcribe.

I shall conclude my notice of this highly important and graphic article with the verbatim transcript of two other cases, which are not only unique in themselves, but conclusive, I think, to every mind open to conviction upon the *vexata quæstio* of the nature of erysipelas.

"An exceedingly large and corpulent lady, after a short attack of rigors, was seized with erysipelas of the leg, extending from the foot to the groin, and the whole limb was hard, tense, incompressible; her tongue was white, she was slightly delirious at night, and her pulse was 120. Six ounces of wine were taken daily, and the disease by this means was checked, and the pulse reduced to 110. But, at the end of four days the case was still formidable, when two grains of quinine were prescribed, in addition to the wine, every six hours. On the following morning the fever had abated, the pulse had sunk to 90, and in a few days this patient recovered, without suppuration or other local mischief taking place in the leg."

"A middle-aged man was admitted into St. Thomas's Hospital, who, after a sharp attack of rigors, was seized with erysipelas of the left leg and thigh, so that, as in the former case, the limb was hard, tense, and incompressible, while considerable vesications had formed on the thigh. This case was exceedingly formidable, and pronounced by a high authority to be fit for incisions. The pulse was 120, the tongue brown and dry, and the stools black and offensive. Six ounces of wine, with sago, were ordered for this man, and in about five days the tongue had become white, the pulse was reduced to 90, the fever had abated, the local tension greatly reduced, and the patient was from this moment convalescent" (p. 286).

Dr. Robert Williams, with characteristic candour, admits that "the treatment by wine leaves much to be desired; but, the exceptions to be provided for are much less numerous than when depletion is adopted. Among the exceptions is a small class of cases to which the wine treatment is only inapplicable because it is not retained on the stomach, or, those in which there is excessive vomiting, or, vomiting and purging. These cases are not common, but, when they do occur, are often fatal; and whether leeches or general bleeding might be more advantageously employed, I have not sufficient experience to determine" (p. 287).

I entertain but little respect for that man's discernment and generosity who could withhold his homage from Dr. Williams as the author of a monograph on the subject before us, not less remarkable from the spirit of truthfulness which pervades it, than for its originality and intrinsic merit. The body of *facts* which this physician has brought forward in support of views which, if honestly dealt with, cannot fail to carry conviction home to the mind of every thinking man, may reasonably be expected to change the very aspect of medicine, as relates to this disease and its "alliances." *He*, assuredly, is a bold physician, who, deserting the beaten track for centuries sanctified by the greatest names in medicine, has the courage to look upon a limb enormously swollen, hot, and red—"hard, tense, and incompressible," or, upon the face and head, from the same conditions, become "literally as big as a bushel,"—and, denying that this is inflammation in the ordinary meaning of the term, proceeds to bring it under control with such arguments as *alcohol and a nutritious diet, in the place of an appeal to the lancet, leeches, and Epsom salts!*

[To be continued.]

OBITUARY.

We have this week to announce the death of M. Leuret, Chief Physician to the Hospital of Bicêtre, in Paris, and well known for his numerous contributions to medical science. He died at Nancy on the 6th January, whither he had gone for the benefit of his health.

On Wednesday, the 8th inst., at Cambridge, John Haviland, Esq., M.D., for more than 33 years Regius Professor of Physic in the University.

MEDICAL GAZETTE.

FRIDAY, JANUARY 17, 1851.

A CASE of alleged Rape, recently tried at the Central Criminal Court, shows that medical men are sometimes not sufficiently guarded in their professional opinions, and that they may thus unintentionally inflict a large amount of irreparable injury on a person falsely charged with this crime. Girls above the age of sixteen not unfrequently invent such charges, either for the purpose of extortion, or for the gratification of a spirit of malicious revenge. The law of England shuts the mouth of a prisoner charged with crime: the prosecutrix has only to select her opportunity, to fix the period of alleged perpetration at a time when she knows no witnesses are near, and to swear *ore rotundo* that the prisoner overcame her and "effected his purpose." A medical man called in to examine the woman may find some violence inflicted on the genitals, and he immediately confirms the statement of the prosecutrix,—that the crime has been "completed." The magistrate has, with this corroborative evidence, no alternative but to commit the person charged with the offence; and it is only after he has been placed as a felon in the dock, that his innocence is conclusively proved. We subjoin the details of the case to which we refer:—

"The defendant, who was a married man, carried on the profession of a dentist in Brunswick-square, and the prosecutrix was in his service at the time the alleged assault was committed; and, according to her testimony, during the temporary absence of her mistress, and a niece of the prisoner who lived with them, the prisoner called her into the bedroom, and there committed the act which formed the subject of the present inquiry. The prosecutrix, in her evidence in chief, admitted that she stayed in the house *two days* after the occurrence, and that during that period she made no complaint to the prisoner's wife or his niece, and that it was not until the Monday following that she told a woman with whom she had lodged of what had happened; and it appeared that she, in company with the woman, then went to the house of the defendant to ascertain what recompense he intended to make for the injury he had done to her, and, upon her doing so, the defendant in indignant terms denied the truth of the accusation, and called to his wife, and in her presence solemnly asserted his innocence of the charge, and told the prosecutrix that she had trumped it up for the purpose of extorting money from him.

"The prosecutrix, upon cross-examination by Mr. CLARKSON, said she had been in London about two years and a half. She came from Ireland, but she had represented herself to be a Scotch girl. She had lived at a coffee-shop and at two or three hotels. She denied having made similar charges against persons whose names were mentioned, or that upon one occasion she had told her landlady that one of her masters had attempted to ravish her while his wife was lying dead, and that he had offered her all his wife's clothes if she would consent to his wishes. She admitted, however, that she had charged two persons in whose service she had been with having taken indecent liberties with her, but she denied having asked her landlady's husband to write to one of these persons to ask for money to stop the charge. Both these charges were dismissed, but she said she did not recollect the magistrate saying that no jury would believe her. She also stated that she did not recollect her landlady saying that it was very strange that all her masters should have attempted to ravish her. While she was in service at Don's Hotel a foreign gentleman kissed her, and she told her landlady of it, but she did not say that he had kissed her and had had satisfaction. She said that she was under warning to quit the defendant's service on the day after the assault was committed, but she did not go, because the defendant's niece asked her to stop, and she remained in the service on the Saturday and Sunday, and slept with the niece on both those nights, but made no complaint of her master's conduct. She asked for leave to go out on the Sunday, and she told what had happened, and the husband of her landlady accompanied her home, but she asked him to say nothing about it, as it was Sunday. A variety of other circumstances were admitted by the prosecutrix, all of which tended to throw discredit upon her evidence.

"Mr. Justice Talfourd said he did not know what view the jury took of the case, but he must confess, for his own part, that the evidence appeared to him very unsatisfactory, and he could hardly believe that the jury would convict the defendant of so serious an offence upon the testimony of the witness who had been examined. The medical evidence which had been suggested as being confirmatory of the evidence of the prosecutrix, did not appear to have that effect, because, although it might establish a particular fact, it did not by any means point to the prisoner. When, therefore, it appeared that the prosecutrix had made charges of a similar kind before, and that she had made no complaint of the alleged assault until two days afterwards, and that, coupled with these facts, it appeared that the prisoner, when the charge was made against him, had done all that an innocent man could do, by denying it indignantly, and calling to his wife, who was the last person he would have appealed to if he had been guilty, to hear the accusation and his denial of it, he did not think the jury could possibly return a verdict of guilty under such circumstances.

"The Jury said they entirely agreed with his Lordship, and immediately returned a verdict of *Not Guilty.*

"Mr. Clarkson said that, in justice to the gentleman at the bar, and in order that his character might be entirely freed from blemish in this transaction, he wished to know whether, in the opinion of the Court, the defendant would not leave the bar without the slightest imputation upon him.

"Mr. Justice Talfourd said, that was certainly his opinion; and he could not help observing that it would be a very terrible thing for the community if a charge like this were to be believed upon such evidence.

"The defendant was then ordered to be immediately discharged from custody, and Mr. Clarkson observed that, under the circumstances, it would be taken into consideration what further steps should be taken in the matter."

It is, we think, clear, from this statement, that this "artless" servant-girl of 18 has been for some years past a regular trader in rapes and felonious assaults; and we trust, after this disgraceful exposure, that the law of perjury may be made to reach her. It is impossible to believe that she is in any one point the witness of truth. In the preliminary examination before the magistrate, Mr. Clarkson said that in five instances he could prove that this girl, from the age of 15, had made charges of this description against persons in whose houses she had been hired as servant. There was reason to believe that she had been successful in compromising some of them, and that on one occasion she had received twenty pounds. Much of the evidence damaging the character and conduct of this disreputable person was adduced before the magistrate; and there is but little doubt that, but for the corroborative evidence of the house-surgeon of the Royal Free Hospital, the accused would have been at once discharged. He is indebted for the ignominy of a trial at the Old Bailey to the "medical evidence" of Dr. Robertson. Without this, the statement of the prosecutrix would have had no corroboration. We quote from the *Times* of January 6th:—

"Mr. Tyrwhitt (the magistrate) remarked that a magistrate was involved in a difficult and delicate position. The prosecutrix had sworn to the fact, and that, coupled with the evidence of Dr. Robertson, the house-surgeon of the Royal Free Hospital, *who said the offence had been effected*, induced him to feel in duty bound to send the case before a jury."

It is a matter of regret that at the trial the case for the prosecution broke down by the mere cross-examination of the prosecutrix herself, and therefore the nature of the "medical evidence," from which it was inferred that the "offence had been effected," did not transpire.

We are satisfied, from the occurrence of this and other cases, that some medical men do not sufficiently consider the serious consequences which may arise from their giving a positive opinion respecting the alleged *completion* of the crime of rape. They thus lend their science to the bolstering up of false charges, and they irretrievably damage the reputation of innocent persons. They entirely forget the real nature of their medico-legal duties, and allow themselves to be guided and influenced by what the newspapers designate the "artless simplicity" of a cunning impostor.

It was long since remarked by a barrister of large experience, that for one real rape tried at the Assizes there were twelve false charges; and we believe that this is no exaggeration. It is a fact, however, that scarcely a charge can be made, notwithstanding its improbability and untruth, which does not receive some medical support. Pseudo-medical science is carried away by artless simplicity. It is quite time that this system was exposed, and that the medical questions arising in a case of alleged rape should be placed in their true aspect. A medical man should not frame his opinion on the statement made by a female, but on her bodily condition at the time he is called upon to institute an examination of her person. The first question is—Has there been any recent intercourse? And secondly, if so, is there any medical evidence that the intercourse has been effected with violence? These are the questions which he is called upon to answer with a strict regard to truth, according to the best of his judgment, and wholly irrespective of any sympathy for the prisoner or prosecutrix. These questions are at all times difficult of solution but they become especially so in the case of an unchaste woman, and when some days have elapsed before the examination takes place.

It appears that in this instance the prosecutrix allowed *four days* to pass before she made the accusation;* and there is no evidence that the examination was made by the medical man at an earlier period than this. We should be glad to know on what *medical facts* the house-surgeon of the Free Hospital relied, as proving that intercourse had taken place, or "that the offence had been effected" four days before. Our readers will form their own opinion of the chastity of this woman from her evidence; but as, according to her own statements, she had already been ravished four or five times, it is really difficult to comprehend on what physical signs of defloration the medical opinion was based. Admitting that there were any visible marks of violence on the sexual organs at this late period—*i. e.* four days after the date of the alleged offence—how was it determined that these marks were certainly due to forcible intercourse, and to no other cause? A woman who made a profitable trade in false charges of rape would be quite capable of producing marks of violence on her person to deceive an incautious and inexperienced examiner. No one can believe that this charge was true; and therefore, if any marks of violence existed, they were probably self-inflicted; and if they did not exist, the medical opinion must have been founded only on the statement of the prosecutrix. We have met with few cases calculated to convey a more serious caution to medical practitioners than this. A hasty opinion, which could not have been based on medical facts, has led to a serious imputation on the character of an innocent man. In this instance it may not have amounted to more than an error of judgment; but it is necessary to remark that in some cases a person so injured may have a right of action against the medical witness for compensation in damages. If a practitioner show gross ignorance of his profession in the treatment of a surgical case, he becomes amenable to the law for the amount of damage inflicted. We do not see why this rule should not be applied to medico-legal practice, in order to make those who take upon themselves these responsible duties, more cautious in the performance of them.

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* It was alleged to have been perpetrated on Friday; and it was only on the Monday following that she demanded compensation.

Reviews.

1. *The Physiological and Scientific Treatment of Cholera*, advocated by William Parker, M.R.C S., L.A.C., Barnstaple, Devon, before the Medical Staff at Gwydyr House, in August, 1849, and subsequently pursued at Pilton, Marwood, &c. Pp. 16. London: Strange.
2. *Observations on the Spread of Asiatic Cholera, and its Communicable Nature.* By John Evans, M.D., Professor of Obstetrics in Rush Medical College, Member of the American Medical Association, &c. Pp. 43. Chicago. 1849.
3. *Practical Remarks on the Predisposing Causes and Treatment of the Asiatic Cholera.* By Frederick J. Mosgrove, M.R.C.S., Eng. Assistant Surgeon, Bombay Army. Pp. 43. Bombay. 1849.
4. *The Colchicum Remedy for Epidemic Cholera, with Directions for Use*, &c. By Joseph Bell. Green: Newcastle-upon-Tyne. Pp. 27.
5. *Observations on Asiatic Cholera, and Facts regarding the Mode of its Diffusion.* By T. Simpson, M.D. Pp. 168. London: Churchill. 1849.
6. *Le Cholera considéré sous son point de Vue Psychologique.* Par le Docteur Forbes Winslow. Traduit de l'Anglais par Edouard Colmache, de l'Hôpital Beaujon. Pp. 14. Paris. 1849.
7. *Observations on Cholera.* By G. G. Bird, M.D., Physician to the Swansea Infirmary. Pamphlet. 8vo. pp. 104.
8. *The Cholera: What has it Taught Us? Its Various Modes of Treatment Examined*, &c. By W. J. Cox, M.R.C.S. Pamphlet. 8vo. pp. 26. Renshaw. 1850.
9. *Short Essay on the Invariably Successful Treatment of Cholera with Water.* By C. C. Schieferdecker, M.D., Proprietor of the Water-Cure Institution, Willow Grove. Pamphlet. 8vo. pp. 32. Philadelphia. 1849.
10. *Vital Statistics of the City of Salisbury; with some Comments on the Cholera Visitation of* 1849. By J. Winzar, M.R.C.S., Medical Officer of the City. Pamphlet. 8vo. pp. 16. Salisbury. 1850.
11. *The Symptomatic Treatment of Asiatic Cholera.* By E. Whittle, M.D., &c. Small 8vo. pp. 100. London: Churchill. 1850.
12. *Statistics of Cholera.* By Assistant Surgeon Edward Balfour, of the Madras Army. 8vo. pp. 70. Madras: Pharoah and Co. 1849.
13. *Cholera and its Cures: an Historical Sketch.* By J. S. Bushnan, M.D. 8vo. pp. 169. London: Orr and Co. 1850.
14. *Die Asiatische Cholera und die Gesundheitspflege*, &c. Von Dr. C. F. Riecke. Pamphlet, 8vo. pp. 82. Nordhausen. 1850.
15. *Fifth Lecture on the Asiatic Cholera.* By George Ross, Esq., Surgeon to the Western Dispensary, and Author of Papers on Typhus, &c. &c. Reprinted from the Medical Times, November 1848. Pamphlet. 8vo. pp. 71.
16. *Further Reports on the Origin and Progress of Pestilential Cholera in the West Yorkshire Lunatic Asylum during the Autumn of* 1849, *and on the previous State of the Institution: a Contribution to the Statistics of Insanity and of Cholera* By Thomas Giordani Wright. M D., Visiting Physician to the Asylum, &c. &c. 8vo. pp. 136. London: Longman. 1850.

The dread of another visitation of cholera has now in a great measure subsided: nevertheless, the same interest still exists among medical men regarding the mode of propagation and treatment of this disease. We have here placed on our list sixteen of the most recent publications on cholera; and if we were to form a judgment from the titles and contents of some of these essays, we might fairly arrive at the conclusion that everything respecting cholera, even to its most successful and infallible treatment, is well known and understood:—in fact, that nothing remains for future observers to explore. We cannot share in these very sanguine views. On the contrary, we believe that we have yet much to learn respecting the disease; and so varied is experience or observation in reference to the mode of diffusion and treatment of the malady, that there are scarcely any two writers who agree in their views. Happily there is greater agreement respecting prophylactic measures; and it is an opinion shared by all, that if, by sound sanitary legislation, we can keep out the enemy, we shall be in a much more secure position than by trusting to an *armamentarium medicum* when the disease is among us.

1. *Mr. Parker* believes that the way to cure cholera is to administer "*nitrogen*, which is a principal ingredient in the brain and in the blood, and is probably the life of the blood." He therefore presented himself at Gwydyr House on the 22nd of August, 1849, and advocated the following "four great principles which are to be attained in the treatment of this disease—namely:—

"1st. Nitrogen is to be supplied to the brain and nerves generally.

"2d. Chloric acid or gastric juice to the stomach.

"3d. Taurine, or constituent of the bile, to the liver.

"4th. An astringent to the relaxed state of the vessels in the stomach and bowels" (p. 13).

To accomplish this, the author prescribes the following formula:—

"Take of the saturated solution of Sal Ammoniac, or Muriate of Ammonia, one fluid ounce; of the saturated solution of alum one fluid ounce; of the infusion of coffee one fluid ounce, made with three ounces of powdered coffee to two pints of boiling water; when cold, the supernatant liquor to be used; of dill water one fluid ounce; of camphor water four fluid ounces, made by putting a lump of Camphor into a bottle with cold water, and allowing it to remain twelve hours before the use of this mixture. Let there be a tea-spoonful taken every ten minutes" (pp. 12-13).

It appears that the authorities at Gwydyr House at once admitted the scientific nature of the discovery, but suggested "that it was not then based on sufficient practical experience to warrant their open adoption." Accordingly, Mr. Parker took the first opportunity of trying his plan, and his experience has given him an earnest of so much greater success than even his sanguine nature permitted him to expect, that we suppose (all difficulties now being overcome) the Board of Health will, in future visitations, limit their exertions to the careful propagation of our author's doctrine and specific.

2. The object of *Dr. Evans's* pamphlet is to prove that the chief mode of diffusion is *contagion*. That he has taken some pains with his inquiries is shown by the subjoined summary of his table:—

"*Summary.*

"Whole number of cases observed		60
Deaths	44	
Recoveries	16	
	—	60
Directly exposed to the disease	50	
Exposure not traceable	10	
	—	60
	Cases.	
Of those exposed there elapsed before the attack, over 24 hours in	11	
Twenty-four hours in	25	
Less than 24 hours in	6	
Time uncertain	8	
Not known to be directly exposed	10	
	—	60
Of those who died there were sick one day or less	28	
Over one day	16	
	—	44

"In this table all cases are omitted unless of decided character, and only those are put down as exposed who had been visiting or nursing the sick of cholera; but most, if not all of those not marked exposed, had been with persons direct from the cholera chamber, or in houses where cholera patients had recently been sick. The emigrants came by way of New York and Buffalo a few days before taken, where the disease was prevailing when they passed. It shows the length of time between exposure and attack to be generally about one day, which strictly corresponds with the history which follows: also that the course of the disease generally runs about the same length of time, when it proves fatal" (p. 18-19.)

He examines and shows the fallacies of the atmospheric, telluric, electrical, and ozonic hypotheses, in reference to the propagation of cholera.

3. ***Mr. Mosgrove's*** object is to recommend the use of *cold water* as the chief therapeutic agent, which appears to be still a novelty in Bombay, although, as we are informed, not at all so to Mr. Mosgrove previously to his arrival in that country.

"During the period when the cholera raged to so frightful an extent in England in 1832-3, it fell to my lot to attend on *several hundred cases* of the disease in its most severe forms: the malady was then but little understood by medical men, and every remedy which could be suggested was tried without success. Calomel, opium, cajeput oil, mustard, alkalies, and various stimulants internally, and bleeding, the warm-air bath, mustard poultices and hot turpentine externally; each of these remedies I saw administered, but apparently without avail: the disease continued to advance, and the mortality still bore a frightful proportion to those who recovered; and even when a patient survived the attack, his constitution was so impaired that a perfect restoration to health scarcely ever took place: medical men naturally became discouraged, and gave up a patient as lost immediately the collapsed stage set in. It was at this period that *I* first employed cold water, and the case is in itself so interesting that I will give the particulars as I entered them shortly afterwards in my note-book" (p. 26-27).

We are informed that at the period in question (1832-3) Mr. Mosgrove had just attained the mature age of *sixteen* years; and therefore we naturally feel curious to learn *where* the overwhelming anxieties of *attendance on several hundred cases of cholera in its worst forms* were incurred by so young a practitioner, and where such valuable experience was acquired. As the pamphlet gives no information whatever on this point, we have been induced to extend our researches among the various essays on cholera which were issued at this period; and we cannot but imagine that our labours have been in some degree successful.

It appears to us that the *attendance on several hundred cases* at this juvenile period of our author's life must be regarded as a mere flight of the imagination; and the interesting case which is given from Mr. Mosgrove's note-book very closely resembles one which we have met with in a pamphlet reviewed in this journal at the time of its publication.*

As the principal object of Mr. French's essay was to enforce the use of *cold water*, and we are told that a copy of the work was presented to Mr. Mosgrove on his departure for India in 1842, it is not very remarkable that there should be such a coincidence in the details. It is with regret we perceive that Mr. Mosgrove, without even referring to Mr. French's pamphlet, claims the whole merit of the discovery of the cold-water treatment as the result of a similar train of observations.

4. ***Mr. Joseph Bell*** is a druggist who, on the assumption that the doctors themselves admit they do not know much about the treatment of cholera, comes forward to express his enthusiastic belief in the virtues of *colchicum*. We think he clearly proves that part of his case in which he asserts that colchicum is not *more objectionable* than many other drugs commonly recommended as remedies for cholera. To this extent we have faith in the use of colchicum.

5. ***Dr. Simpson's*** book is intended to settle the question of the *contagious nature* of cholera. Although the minds of practical men are now generally agreed, yet, when we reflect that on this point only one of the medical witnesses examined at Gwydyr House expressed the opinion that the disease was contagious, we cannot but think that Dr. Simpson has written a useful book. It was published at a time when the evidence was perfectly fresh, and when, therefore, most credence was to be attached to it. We perfectly agree with the author in the opinion that "the admission of the doctrine of contagion by those who have directed the public mind on the subject during the prevalence of the disease would have suggested such precautions as would have been the means of saving many thousand lives."† His argument is enforced by his own experience, by that of his professional neighbours, and by the general literature on the subject of cholera which he has carefully and extensively consulted for evidence of the most conclusive nature.

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* The Nature of Cholera Investigated. By J. G. French, Esq. See case, p. 52; and Mosgrove, p. 27. With the exception of a difference of sex, the details are very similar.

† Preface.

6. *Dr. Winslow*, in his brochure, advocates the doctrine that fear is one of the chief causes of the disease, and that a cheerful state of mind is the best antidote to it. Although we think that the effect of this cause is greatly overrated, inasmuch as we never witnessed any of the effects which are ascribed to it, we do not object to the encouragement of an opposite condition of mind, which is at the least more desirable, and certainly more favourable to health. We do not, indeed, think that the policy which was adopted by the Board of Health in declaring that the disease was *not* contagious, for the purpose of reassuring the public mind against fear, was either fortunate or judicious; for we believe that many more cases arose from unnecessary exposure than could possibly have arisen from the direct influence of fear. We are acquainted with an instance of a woman who fairly fled under a paroxysm of alarm caused by the death of some cholera patients in the house where she resided, and who escaped the disease,—a result which might have been different had she remained.

7. *Dr. George Gwynne Bird's* pamphlet contains nothing new respecting the progress and treatment of the disease. It consists of a well-written history, adapted either to professional or non-professional persons, and includes a summary of facts which must be familiar to the majority of our readers. The author believes cholera to be a disease of the febrile class, liable to spread occasionally, and under peculiar circumstances, by contagious propagation. Like the preceding writer, his view is that fear greatly predisposes to the disease. Of course a moral cause of this kind, the operation of which cannot, to a certain extent, be disputed, applies to adults, and not to infants and children, of whom large numbers were carried off by the late epidemic. Dr. Bird, while he has added nothing to our stock of knowledge, has produced a readable digest of the facts connected with the diffusion of cholera in England. The pamphlet contains numerous quotations from well-known writers.

8. *Mr. Cox's* essay is really a practical contribution to cholera literature. The author had under treatment no fewer than ninety cases, and he adopted *five different methods* of treatment. The results are fairly tabulated; so that, assuming the cases to have been of equal severity and occurring at or about the same epidemic period, it is in the power of the reader to compare the value of different modes of treatment.

The pamphlet is essentially directed to treatment; but before entering upon this, the author gives us his views of the nature of malignant cholera in a series of conclusions, from which we make the following extracts:—

"2. That the cholera virus acts primarily upon the mucous lining membrane of the intestinal canal (chiefly the arch of the colon and lower part of the ileum), producing at first a high degree of irritation, and afterwards a *specific* inflammation, rapidly tending to disorganization. This is proved, I think, by the condition of the villous coat discovered in those who die early in the collapse."

"4. As a consequence of this excessive energy of the sympathetic ganglionic centres, the intestinal canal becomes highly positive, rapid decomposition of the tissues takes place, and great increase of temperature occurs, arising necessarily from the unwonted activity of the chemical processes of oxidation and destruction. Congestion and semi-paralysis of the contiguous viscera (liver, hepatic ducts, spleen, kidney, &c., but especially the two first mentioned) soon happens, and, becoming severe and persistent, ends in—

"5. Paralysis, partial, or, in rapidly fatal cases, often complete, of the mesocephalon, medulla oblongata, and upper part of the medulla spinalis, caused directly by the carbonized blood circulating through the nervous centres."

"10. Where the collapse is survived, the greatest dangers after reaction is established consist in the lighting-up of gastritis and encephalitis, terminating in ulceration of the stomach and effusion beneath the arachnoid.

"11. That cholera has a manifest and remarkable tendency to a periodical return of the accession of its symptoms. Patients frequently recover from the first shock of collapse, which generally sets in at night; reaction becomes well established during the day, to be succeeded by a fresh attack of the worst symptoms of prostration after sunset. This periodicity is noticed, more or less, in all febrile affections.

"12. That the disease is certainly contagious: I will venture to say, from my own limited experience, it is more contagious than continued fever" (p. 9-11).

From these views of the nature of

cholera, Mr. Cox has deduced the subjoined method of treatment, which he has found more successful than any other yet proposed:—

"To sum up, then, the list of remedies, I think we are warranted in concluding are the most worthy of trust, as being the most rational, and in practice successful. The order of precedence in which they are placed indicates what I conceive to be their relative merit. They should, however, be used simultaneously. We are not, I think, justified in trusting alone to any one remedy when we have to cope with so terrible an enemy, but should use the combined force of all such auxiliaries as have stood the test of experience. 1. CALOMEL: in 'small and repeated doses,' as recommended by Dr. Ayre, except in such instances wherein, as before stated, violent cramp is present, when it seems preferable to exhibit it in larger doses. [See the report of my own cases.] The only modifications I have adopted and ventured to suggest in Dr. Ayre's mode of administering this grand remedy, are—*first*, to give it in the form of powder instead of in pills, for its action is more rapid when so administered: *secondly*, to give it alone, or at all events not in combination with opium. Dr. Ayre, I believe, now concedes this point. 2. ICE: externally to the abdominal region, and also by mouth. 3. SPONGING with very dilute nitro-hydrochloric acid. 4. SULPHURIC ACID. 5. MERCURIAL INUNCTION of the right hypochondrium. (Strong blue ointment, half an ounce to an ounce, repeated in two hours if deemed necessary.) Of this list, No. 1. *is certainly, I boldly say, A* 1. I shall presently adduce statistical evidence of their actual value, as well of their relative value, when compared with other remedies" (p. 16).

Some space is devoted to answering the objections urged against the calomel treatment; but this, in our opinion, is quite unnecessary. If the author's experience has shown him that, by adopting it under similar circumstances, there have been fewer deaths than when the patients were treated on any other plan, this is *pro tanto* a conclusive answer to all objections. We care not what the *theoretical* operation of a remedy may be, provided it be proved to be a *bonâ fide* remedy; and in this respect we think there has been much profitless choleraic discussion. The little that we know, physically speaking, of the *modus operandi* of any one drug in the Materia Medica on the organic tissues should satisfy us that a remedy may have an empirical character, and yet be highly serviceable in the hands of a skilful practitioner.

Mr. Cox informs us that the calomel treatment was employed by Dr. Ayre, in 1832, in 219 cases, and there were 43 deaths: in 1849 it was used by him and his colleagues in 3764 cases, and there were 371 deaths. The mortality of cholera in the cases thus treated amounted to about 12 or 13 per cent. In the practice of Dr. Wilson, of Sheffield, the deaths under the same plan of treatment were not more than 20 per cent.: and, according to Mr. Cox, out of upwards of 900 cases treated on the calomel system in small doses, there were only *seven* deaths,—*i. e.* less than *one* per cent.; while the average mortality from cholera varies from *fifty* to *eighty* per cent. Mr. Jones, like Mr. Cox, at first pursued the *saline treatment, and lost every patient!* and afterwards the stimulant and opiate system, which proved nearly as unsuccessful. As the experience of *one* practitioner on the treatment of cholera, the following summary of the results of ninety cases is of value:—

	Result.	Deaths.
Cases treated by stimulants and opium	17	10
Cases treated by stimulants alone	5	3
Cases treated by tartar emetic	4	4
Cases treated by large doses of calomel	9	1
Cases treated on Dr. Ayre's system, modified	55	13
Total	90	31

The subjoined paragraph gives the relative mortality under the "small dose" calomel system and other methods of treatment:—

"From the reports and statistics I have here adduced, and from all I have been enabled to learn from numerous authentic sources, I have arrived at the following general ultimate estimate of the relative value of the calomel treatment, viz.—

"Deaths under Dr. Ayre's system, 20 to 24 per cent.

"Deaths under other methods of treatment, *saline*, stimulant, &c., 50 to 70 per cent.

"This, I beg *earnestly* to assure my readers, is not a rough and prejudiced guess, but the conviction resulting from patient inquiry" (p. 25).

Mr. Cox not only points out the plan which, according to his experience, was most successful, but he plainly denounces other plans which utterly failed in his hands, and appeared even to hasten death. Of the *tartar-emetic* treatment, he says:—

"In my own hands, and under the management also of many of my friends, it proved a *decided and deplorable failure:* I lost *every case*, and those not of an especial malignity of type;—insomuch so, indeed, that nothing would induce me, in the event of a fresh outbreak, again to waste valuable time in giving it a new trial, which, I firmly believe, must prove equally futile" (p. 25).

Of opium we find him expressing the following opinion:—

"The administration of opium must be not only useless, but *manifestly contra-indicated*, as being fraught with great danger. Indeed, I consider this drug TOTALLY INADMISSIBLE in any stage, or in any dose. It is *quite powerless* to check the vomiting and purging, or to relieve the cramps. Moreover, it must, by its well-known influence on that organ, greatly promote the risk of congestion of the brain, to which, and its fatal results, there is naturally a strong tendency when reaction takes place" (p. 13).

In short, Mr. Cox regards the Board of Health specific—opium—as "a poison" in Asiatic cholera. The application of hot mustard poultices, or heat in any form to the abdomen, is also condemned.

"That heat applied in any form to the abdominal parietes must prove injurious, as tending in a great degree to keep up the high action already going on within, and to accelerate and hurry on to still greater rapidity the destructive processes of inflammation and decomposition. * * * I have never witnessed the application of heat to the abdominal region during the collapse of cholera with any other effect than to intensify the condition of prostration, and to increase, or even re-excite vomiting" (p. 11-12).

Applications of ice or cold water either locally or taken by the mouth are, on the contrary, attended with good effects.

We must bestow on Mr. Cox the praise of fairly recording his testimony on the results of five different methods of treating cholera. Experience thus accumulated cannot fail to be serviceable to medical science; but at the same time we must take leave to remind the author that there are two sides to the picture. While Mr. Cox regards calomel in small and repeated doses as the sheet-anchor in the treatment of cholera, and opium as *never serviceable* in the diarrhœal or any other stage of the malady, another experienced observer—Dr. Hughes, of Guy's Hospital—equally ardent in the search of truth, and desirous of improving medical practice, with, perhaps, a larger field of experience before him, has arrived at conclusions diametrically opposed to those of Mr. Cox. In an interesting paper published in this journal,* Dr. Hughes states that the results of the small-dose calomel plan were so unfavourable as to produce a mournful depression of his spirits. All, or almost all the patients, so treated died! He records that the calomel was thus tried in twelve consecutive cases by a friend. *All died*, and died more rapidly than ordinarily, though the patients were of varying ages and in different stages of the complaint. Let our readers compare this with Mr. Jones's (of Wandsworth) mortality of one per cent., and then try and arrive at some conclusion respecting the fallibility of medical observation or experience. No one can doubt the accuracy of the reporters on either side. Hence it follows, on the one hand, either that all the cases were not cases of cholera, and the calomel had nothing to do with recovery or death, or, on the other, that the locality in which the calomel is administered must exercise a surprising and an unaccountable influence on the results! In such a conflict of testimony, how are we to arrive at the truth?

9. With the doubt thus raised respecting the efficacy of calomel, it is satisfactory to find that we next fall upon an "invariably successful treatment."

Dr. Schieferdecker, a German hydropathist, carrying on his "cures" in Pennsylvania, does not expect to satisfy or convince members of the orthodox profession, until they have been corporeally submitted to the water-cure, that *his* plan of treatment is the only one which ensures success. At page 15 of this interesting pamphlet, the writer says:—

"Of physicians of the drug-school I do not expect much: with the exception of some great and noble souls, they attack hydriatrics without having the necessary knowledge of understanding it. They are so fixed in their idea that diseases must be cured by drugs, and that they alone have the stone of wisdom, that they are really physically sick, and could only themselves be restored to a proper use of their mental faculties by a water-cure. They consider themselves, in their attacks against hydriatrics, original, humorous, satirical, witty: yet they are coarse instead of humorous; malicious instead of witty; spiteful instead of satirical" (p. 15).

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* See our 44th volume, p. 485.

The object of this pamphlet must be apparent from the title. It is to attract patients to the Pennsylvanian Water-cure Institution. What is true in it is not new, and what is new is not true. Thus the free use of cold water internally was employed by Mr. J. G. French and others in this country in the cholera of 1832-3, and with a fair amount of benefit. Dr. Schieferdecker, writing in 1849, claims this as something quite new in hydriatrics (Hydro-tricks?), and as a proof of the efficacy of the cold-water system in general. In like manner the external application of cold water was recommended and employed long since as an aid to bringing about reaction. The formality of a "sitz" at 59°, and the packing in a wet sheet, are new features peculiar to hydropathy, which we believe add nothing to the efficacy of cold water taken internally or applied externally with frictions. The quack hydropaths have therefore simply appropriated remedial measures long since used by medical practitioners: and they thus take credit for a success to which they have no claim. The author of this pamphlet coolly tells his readers "that every time when cold water was applied in time, and *in a sensible manner*, in a cholera case, the patient was saved." We have then a table of the results of treatment forcibly illustrating the correctness of Canning's remark, that there was nothing so fallacious as figures, except facts. Under the head of *Drug-treatment*, the table represents in figures the deaths at one half, or rather more; while the table of hydropathic treatment records 615 cases, among which, it is stated, there was not a single death! If people are foolish enough to believe this, and act upon the belief, they have only themselves to blame. We have the same degree of faith in these statistical tables as in the famous Vienna tables, which set forth the unbounded good resulting from homœopathic treatment. Impostors can now deal with statistics as readily as the actuary of an Insurance Office. The figures are stated to represent facts which have really no existence, and they are then published in glowing colours to support a profitable imposture.

10. *Mr. Winzar's* pamphlet is of a local character He dwells on the necessity of good drainage and ventilation, the abolition of intramural interments, and the improvement of the dwellings of the poor. In respect to the drainage of Salisbury, there is room for amendment; but the ventilation is good, "the streets being at right angles, and allowing a complete thoroughfare of air." Rheumatic affections are frequent, but the town enjoys a *singular immunity* from fever. The deaths from fever during the five years ending 1849 were less than one in 1000 per annum (0.6). The annual average mortality from all diseases is 2·6 per cent: during the cholera year of 1849 it was 4·8 per cent. —*i. e.* it was nearly doubled.

The deaths from cholera in 1849 were 164, and of these 120 occurred among adults, and 44 among young persons under 15 years of age. Out of 116 fatal cases observed, 99 terminated in the primary stage. In Salisbury, as elsewhere, the poor suffered in greater proportion than other classes. The deaths comprised 109 paupers inhabiting the worst parts of the town. Mr. Winzar has here produced a useful local record. Medical practitioners in other towns and cities of Great Britain would do well to follow his example. Such monographs pave the way for sanitary improvement, and are more effectual in this respect than public meetings and noisy discussions on sanitary destitution.

11. *Dr. Ewing Whittle* has, in this little volume, given to the profession the results of his experience in the treatment of cholera at the Toxteth Park Hospital, Liverpool. In the first chapter we have a description of the post-mortem appearances of cholera; in the second, an inquiry into the pathology of the disease. Here the author contrasts the symptoms of malignant with those of sporadic cholera, and suggests various points of difference. His conclusion is, that the malignant cholera is a febrile disease, having four stages—namely, of invasion, spasm, collapse, and of encephalic fever. These various stages are described and illustrated by cases. In reference to *treatment*, the author's views are of a rational kind. His great object

is to encourage the symptomatic treatment of cholera, rather than the practice of trying first one specific and then another. He obtained most satisfactory results by the general adoption of *depletion*. In fact, he is so strong an advocate of *bleeding* in cholera, that he considers many of his cases proved fatal by reason of his not having adopted, at an earlier period, this mode of practice. Out of 497 cases of cholera, he used depletion in fifty, many of the cases having occurred before he had acquired confidence in this plan of treatment. As it is very much the fashion now to tabulate the results of treatment, we here insert a table from Dr. Whittle's essay, which shows the relative mortality produced by cholera in the two great classes of society, and the comparative effects of different modes of treatment:—

Table showing Comparative Rate of Mortality.

	No. of Cases.	Deaths.	Rate of Mortality.
The indigent poor . . .	395	158	40 per ct.
People in comfortable circumstances .	102	17	16·6 per ct.

Table exhibiting the Result of Treatment.

Treatment.	Cases.	Recoveries.	Deaths.	Mortality.
Bleeding .	50	42	8	35.2 per cent.
Calomel .	72	30	42	
Stimulants	36	25	11	
Tartaremetic . .	21	20	1	
Various .	274	204	70	
Received no medical treatment.	44	1	43	
Total .	497	322	175	

"It is not meant that no remedy was employed in any of these cases but that indicated in the table, but that that remedy in each particular case was the one principally relied on for inducing reaction and bringing about a cure" (p. 44-45).

The *saline treatment* does not even find a place in this table: indeed, the depletory plan, which appears to have been attended with the greatest success, is wholly irreconcileable with it. Dr. Whittle removes the blood and cures his patients; the saline practitioners retain the blood in the system, and struggle to alter its chemical nature.

Of the *cold-water plan* of treatment, which many practitioners have found so successful, Dr. Whittle says:—

"The propriety of permitting patients to drink freely of cold water has been very much canvassed; many condemning the practice as most injurious, while some men of considerable experience recommend it. The inclination to drink incessantly is so strong that we had many opportunities of observing its effects. It very much aggravates the vomiting, and the patient's thirst is never allayed in the least; while it is permitted, there is no use in giving any medicine, because it is immediately rejected, and the patient gets worse and worse.

"We found the thirst more alleviated by letting the patients sip a little from time to time: when very little fluid is taken into the stomach at once, it is possible to overcome the vomiting; but it *cannot* be restrained if the patient is allowed to drink *ad libitum*" (p. 49).

The author does not advocate bleeding indiscriminately. He believes it is very efficacious at the invasion of the disease, and that its utility is questionable when the patient is collapsed. The calomel plan of treatment was entitled to the *second* place. Next to the use of the lancet, Dr. Whittle found no remedy to be at all compared to it in value; and during collapse it was the only medicinal treatment which appeared to be attended with any good. In this respect, Dr. Whittle's experience is entirely opposed to that of Dr. Hughes, to whose paper on the inefficacy of calomel in cholera we have already referred. In conclusion, a few observations are appended to the essay to show that cholera is capable of being communicated from one individual to another.

12. *Mr. Balfour's* statistics of cholera, although based on observations made by the author in the Madras Army, form a highly valuable addition to our knowledge of this remarkable disease. The effect of this Indian plague on the East India Company's Army may be judged of from the fact, that during twenty years, from 1825 to 1844, the deaths among the European soldiers were 1741 out of 13012 from all causes; and among native soldiers, out of 69973 deaths, there were 13260, or nearly a *fifth part* of the whole, from cholera. Among the

conclusions which may be drawn from the author's tables, we may state—1. That European soldiers are more frequently attacked with cholera than native soldiers; 2. That a visitation of epidemic cholera increases the mortality of the year in which it occurs above that of other years; 3. That the cholera appears to have gone on increasing in violence from the period of its first outbreak. There is no sign, as it is sometimes asserted, that this malignant disorder is wearing itself out. In the native soldiers of the Madras Army the proportion of deaths to admissions continues at the present time nearly the same as in the earlier years of its appearance; and it is a curious fact that, although native soldiers are less susceptible of the influence of this disease than Europeans, yet, when seized, the proportion of those that recover is greatly less. The deaths, year after year, in the Madras European returns have been pretty regularly one death in every two, three, or four cases admitted; and in the returns of the native soldiers there has been one death in 2·2 admissions. There are now fewer recoveries in proportion to the attacks among European soldiers than there were in former years.

With respect to the efficacy of any given plan of treatment, Mr. Balfour makes a reasonable distinction according to the *period after the attack* at which the treatment commenced. Among those who were admitted in an early stage, the deaths were 32 per cent.; while, among those who were admitted later, the deaths were 57·7 per cent. The advocates of the depleting, calomel, and saline treatments, have not, in our opinion, attended sufficiently to this important difference, but have praised one and condemned another plan without a due regard to the period or stage of the disease at which each was commenced.

Diseases are often much modified in their malignancy by a change of locality; but Mr. Balfour's tables inform us that, so far as relates to experience obtained in the Indian army, the intensity of cholera has varied little wherever it has appeared. But the facts recorded by Mr. Balfour go beyond this: they show that, although cholera took fifteen years to reach Britain and America, while the proportionate mortality among the English soldiers in the Madras army from 1821 to 1846 was one death in every 3·3 admissions,—in Great Britain, from 1832 to 1834, it was one death in every 3·05 admissions; and in the same years, from 1832 to 1835, according to Dr. Forry, the American soldiers lost one in every 3·5 admissions. Thus, then, the lapse of *fifteen years*, and a transportation of the *materies morbi* from India to England, and thence to America—*i. e.* over three-fourths of the globe—did not in any degree diminish the malignant character of the disease. The influence of age, habits of life, and other conditions, on susceptibility to, and recovery from cholera, are carefully analysed by the author. The results confirm the observations made by other writers. Some curious examples are quoted to show that during the marching of troops, an entire change of route is efficacious in diminishing the effects of an outbreak. In stations liable to be ravaged by cholera, any unusual prevalence of fevers, liver-disease, dysentery, or diarrhœa, should excite suspicions that cholera is about to appear, and precautions should be taken accordingly. We consider this essay on the Statistics of Cholera to be a most creditable production. Although it is confined chiefly to the statistics of the Indian army, it cannot fail to instruct all who bestow on it an attentive perusal.

13. *Dr. J. Stevenson Bushnan's* work consists chiefly of reprints of miscellaneous matters relating to cholera. Thus it comprises an historical sketch of the wanderings of the disease (which was ably given by a writer in the daily *Times* some time since); the opinions of many writers on its nature and origin; the state of the dwellings of the poor in London, as made known by the Sanitary Commission and Board of Health; the state of the drainage of London, as given in evidence by various surveyors; the orders in council, and other measures that were published at the time of its appearance; the meteorological observations of Mr. Glaisher; a reprint of "the Form of Prayer and Thanksgiving issued by her Majesty's Special Command for Use in all Churches and Chapels in England and Wales, and in the Town of Berwick-upon-Tweed;" extracts from the reports of the Registrar-General, with copies of the diagrams and tables published by the same authority; an account of the water-supply of Lon-

don, from a similar source; a reprint of Mr. Smith's paper and tables published in the *Medical Times* on the Influence of Season on the Advance of Cholera; the condition of metropolitan burial-grounds, as stated by the witnesses examined before the Board of Health, interspersed with poetical quotations in Latin and English.

Such is our table of contents of this book up to page 129, out of 169 pages of which it consists. The remainder of the book is divided into two equal parts. About twenty pages are given to tables illustrating the proposed *cures* for cholera, and twenty pages to the saline treatment, as proposed by Dr. Stevens. Before proceeding to examine this part, we must return to a passage in the preface having reference to *cures*. The author says:—

> "I have been forced to draw the painful conclusion that the mortality of cholera has not been diminished a single iota by the means generally employed. Nay, more: I fear experience in hundreds of thousands of cases has not advanced us one step beyond the ignorance of uncivilized nations. The mortality in every part of Europe, and under every variety of medical treatment commonly employed, has been the same. The inevitable deduction from this simple fact is, that medical science, under its present direction, has exercised no beneficial influence whatever upon the termination of the disease. Nearly the half of those attacked have been cut off in every part of the world. This is a sad conclusion, and holds forth a fearful prospect to the mind."

It appears to us that Dr. Bushnan has here, for the sake of appreciating one particular plan of treatment, depreciated all others, and has drawn an inference which would hardly have been drawn by one who had had practical experience in cholera, and who had examined with an unbiassed mind the published reports of men who had really seen and treated the disease. The excellent practical work of Mr. Balfour, which we have just noticed, shows that in India, under early treatment, the mortality among the troops was reduced from 57·7 to 22 per cent., and therefore the statement made by the author in his preface requires considerable qualification.

The main object of this treatise appears to be to advocate the general adoption of Dr. Stevens's *saline treatment* in preference to any other. Until we reach page 129, we find nothing concerning the cures for cholera. Here we meet with a series of tables setting forth the names of those who have proposed new *plans* of treatment (not *cures*), the nature of the remedy, the authority and date. These occupy fourteen pages, and all are condemned in rather unmeasured language; not, so far as we gather, from the author having personally witnessed their inefficiency, but from the examination of "an immense mass of documents" connected with the progress and treatment of epidemic cholera. The author tells us that he has "closely examined" the disease during two outbreaks in this country. What does this mean? Has he had an opportunity of seeing and treating even a dozen cases of cholera? If he has, where are we to look for the results? If he has not, on what ground does he so strongly condemn modes of treatment which have been successfully adopted in some hundreds of cases by practical men? Documentary experience is the last kind of experience required in cholera, and is certainly insufficient to justify such a sweeping condemnation as is here passed on every plan of treatment, save *one*—namely, that of Dr. Stevens.

The object of Dr. Bushnan, so far as the *cure* of cholera is treated in the last twenty pages of his work, appears to be to take up the advocacy of Dr. Stevens's saline plan of treatment. We are not disposed to withhold from Dr. Stevens the merit which is justly his due, of having recommended in a desperate disease a method of treatment, not as mere guess-work, but as a result of the legitimate deductions of careful observation of its phenomena. That the plan proposed by him has not been found so extensively useful as he had hoped, in no degree detracts from his good faith and earnestness in its employment. It is but an episode common to the history of all remedies that have been advocated in cholera, without due regard to the peculiar nature of the disease and to the time and circumstances of the attack.

The few pages at the close of the volume devoted to the saline plan of treatment are so occupied with controversial matter, that the practitioner, instead of having his attention fixed on the proposed remedy, is carried away by the personal quarrels and disputes which accompanied its introduction. It is urged that this plan of administering freely saline medicines, such as common salt, sesquicarbonate of soda, and chlorate of potash, has not had an extensive or a fair trial. According to Dr. Bushnan, who, so far as we can find, has not employed it, or seen it employed in a single case, for he nowhere refers to his personal experience in the matter, this very simple plan of treatment reduces the mortality in cholera to so low a figure as *three per cent.* "out of a total number of 446 cases of cholera, of which 201 *had been cases of collapse!*

If this be so, it is really scandalous and disgraceful that the profession should be quarrelling about the comparative success obtained by the use of calomel in large and small doses, of tartar emetic, of depletion, cold water, and other means. Practitioners, according to Dr. Bushnan, have altogether overlooked an easily accessible and certain cure, even for the stage of collapse, since a mortality of *three* per cent. is very little above that which actually occurs from the ordinary risks of life. It is our earnest desire that in another outbreak the free use of salt and its saline adjuncts may have a general trial, in order to determine the correctness or incorrectness of such a marvellous statement obtained from documentary evidence. That with these alleged merits this plan of treatment was, during the late outbreak, entirely overlooked, as much as if it had never been proposed, is an event for which we cannot account. Dr. Bushnan ascribes it to the effect of prejudice: we cannot, however, join in this view.

14. *Dr. Reicke's* work goes over the proposed causes of cholera, and the theories of its mode of propagation, with its relation to malarious diseases, ague, typhus, plague, &c. It contains also an account of the cholera among soldiers in the German states, and concludes with the general and special hygienic relations of this epidemic. The following is a summary of the author's investigations:—

Cosmo-telluric agencies exert the same influence upon cholera as upon other epidemic diseases.

As a specific disease, Asiatic cholera depends upon an unknown producing cause of a miasmatic character.

Asiatic cholera follows in its wanderings the laws of malarious diseases; in the north of Germany being connected with ague; and in other countries with other prevailing malarious diseases.

In conformity with these laws it has local origins, which therefore render cordons nugatory. Where it has appeared to have departed from these laws, it has been conveyed by effluvia from the diseased; and where this is the case, the importance of dispersing the patients is evident. Moisture, especially in the atmosphere, favours the spread of the cholera poison; on the other hand, cleanliness, ventilation, &c., disperse the infection.

Defective diet, cachexia, &c., dispose to cholera. The atmosphere seems to be the medium of conveyance of the infection of cholera.

A relapse of the disease is to be feared so long as a disposition to gastro-nervous diseases continues.

Beyond noticing this work as interesting in itself, we may mention that in its material characters of paper and print it presents an example of the improvement which has appeared of late years in German publications.

15. *Mr. Ross's* Lecture, the object of which is to point out the mortality of cholera under different modes of treatment, is accompanied by a long correspondence between himself and Dr. Turley, of Worcester, with reference to Dr. Stevens's saline treatment, wherein its superiority over every other plan of treatment is asserted by the latter; and at the same time much honour is reflected on both parties by the singleness of purpose which is manifested in their efforts to arrive at the truth on this much disputed question. Equally honourable to himself is the candid retractation by Mr. Ross of the statements confidently put forward by him—but, as he subsequently discovered, on incorrect data—in announcing an unfavourable estimate of Dr. Stevens's saline treatment.

Dr. Stevens has an able advocate in Dr. Turley, who has fully vindicated his character. If the merits of the saline treatment be really such as are here claimed for it, it is surely a source of marvel and regret that we have no record of its results during the late prevalence of cholera.

We would commend this pamphlet to those who desire to possess themselves of the real facts of the dispute concerning cholera in the Cold-Bath Fields Prison in 1832, or who may wish to learn Dr. Stevens's pathological views; and, lastly, to all readers as a model of controversial writing.

16. *Dr. Wright's Report.*—"An unusual mortality in the Yorkshire Asylum had preceded the invasion of cholera. During the previous eighteen months nearly one hundred patients had died beyond the average annual amount,—a number startling enough by its excess to demand separate and rigid investigation; and, when cholera broke out, it carried off in little more than a month one hundred more victims. *From these two causes, therefore, a number equal to one-third of the patients resident in the Asylum perished in less than two years over and above the usual ratio of mortality!*"

The first Report of the Asylum has been before noticed in this journal with other Lunatic Asylum Reports. This further report, the object of which is to supply information on the melancholy facts above stated, is drawn up by Dr. Wright with elaborate care and fulness.

Dr. Wright first institutes an examination into the mortality of the Asylum from its opening, in order to discover the causes of the increased mortality which preceded that from cholera. These he finds to be entirely *extrinsic* to the Asylum, and to be connected with the sudden reception of a large number of enfeebled patients, and of advanced and hopeless cases consequent on the opening of a new portion of building. Dr. Wright at the same time leaves it as an open question whether many of these lives might not have been saved by "full diet, with daily rations of animal food," which he considers necessary for "most patients recently admitted," and "where feebleness of constitution is apparent" (p. 39).

In reference to this subject, we regret to meet with the following passage:—

> "But it may be said—Why not improve the dietary of the whole, and give them all daily meat dinners? To which I would reply, that *there are other interests to be thought of besides those of the poor lunatics; and, though their welfare is our immediate and first consideration, yet, when that is, as far as possible, secured, we are bound to have regard to the ratepayers, who furnish the means for their support.*"

We have here distinguished this passage by italics, as expressive of our surprise that Dr. Wright should have deliberately published a statement to the effect that he considers the interest of the *poor* lunatics *secured*, while at the same time he admits a doubt whether many of their lives might not, perhaps, have been saved if the pockets of the ratepayers had not been *considered!* Surely Dr. Wright does not do full justice to Yorkshiremen by supposing that they would grudge a sufficient diet to their poor lunatic neighbours. The splendid buildings which have arisen, and are still rising over the face of this country, for the abode, and for the *cure* of *poor* lunatics, amply testify that the money expended in their behalf is not to be included among the rates to which Englishmen object. We do not hold Dr. Wright as solely responsible for this false economy, but we regret that he should not have had sufficient influence with the directors or managers of this institution to have rendered so painful a confession unnecessary. We cannot, however, look for the proper management of Pauper lunatic asylums until they are placed under the entire control of medical superintendents, without petty interference on the part of laymen.

The second question to be answered in Dr. Wright's Report is the cause of the introduction of cholera into the Asylum, and of its fatal virulence there. This is answered very ably by Dr. Wright, who has been at great pains to ascertain all the circumstances of the institution at the time, as well of the patients, and the form of disease of the mind under which they were then suffering: in short, he has thoroughly investigated the whole subject, and supported his statements by extensive statistical tables. The conclusions arrived at are, that the cholera was brought into the Asylum by infection, and was not simply epidemic, nor a growth within its walls; that no defective arrangements as to cleanliness, drainage, food, &c., existed or fostered its development; that no lack of prompt vigilance or of judicious medical treatment aggravated the fatality of its course. The entire materials of the Report, with the statements of Dr. Wright's pathological views, render this a work which may be advantageously consulted by all medical practitioners.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

Dec. 3, 1850.

DR. QUAIN presented a specimen of

Aneurism of the Left Ventricle of the Heart in a Youth,

who was brought dead into University College Hospital. The body was examined by Mr. Scriven, who obtained the following history:—He was an errand-boy, 14 years of age. His health had been good until five months before his death, when he took cold, and complained of pains in his limbs, from which he was never subsequently free. For a month preceding his death he had been observed to be getting thinner. About a week before his death he had complained of palpitation and pain in the region of the heart, and he had a fainting fit, which, with the symptom just named, soon went off. The day before his death he complained of pain at the epigastrium, which soon disappeared. He did not suffer from dyspnœa: in fact, he followed his occupation, and was not supposed to be ill. At the time of his death he was seen sitting by the side of the road, when suddenly he uttered a cry and fell on his side, and on being raised up he was pronounced dead.

Post-mortem examination.—There was nothing particular in the lungs or pleura except a little recent lymph, and serous effusion at the left side. The pericardium occupied a larger space than usual, and was found filled with bloody serum, and a clot of blood, which weighed 3 oz. There existed an old firm pericardial adhesion at the apex. The hæmorrhage was traced to an orifice in an aneurismal sac existing at the base of the left ventricle. This sac was shaped somewhat like a thimble; it projected outwards and upwards between the root of the aorta and the left auricular appendage. It was an inch in length, and rather more than two and a half inches in circumference. The orifice, which communicated with the ventricle, was of an oblong form, being one-fourth of an inch in length, and half this measurement in depth, and it was situated immediately beneath the outer or left segment of the aortic valve, and close to the attachment of the mitral valve. There were two other smaller orifices close to the larger one; each would admit a large pin-head, but there were no distinct projecting sacs. The perforation from whence the hæmorrhage had proceeded, and which would admit a small-sized quill, was found at the apex of the tumor. This point had been adherent to the auricular appendage and to the pericardium. The walls of the sac contained no muscular fibres, but had evidently been formed through yielding of the fibrous texture, and were composed of a cellulo-fibrous tissue, covered by the serous pericardium, and lined by a smooth membrane, which could be traced in continuation with the endocardium. The heart was hypertrophied, and weighed 9 oz.: there was no disease of its muscular walls. The aortic valves were extensively diseased, being degenerated, broken down, and studded with calcareous particles. There were some white patches on the endocardium of the left ventricle. The mitral valve was thickened at its edges, and there was some calcareous deposit on it, and on the chordæ tendineæ. The right cavities were free from disease. All the cavities were empty. There was no disease in any other organ.

The existence of a well-marked aneurism in so young a subject is a point of considerable interest. The age of the youngest subject of this disease referred to by Dr. Thurnan, in his excellent essay (Medico-Chirurgical Transactions, vol. xxi.), appears to have been eighteen. Another point of great interest appears to be the amount of disease which existed in the heart without causing any serious inconvenience to the subject of it.

December 17.

MR. CANTON exhibited three specimens of

Chronic Rheumatic Arthritis of the Knee-joint.

The first was removed from an elderly woman who for some time had suffered from the symptoms characterising this complaint. The outer condyle of the femur presented a series of vertically disposed ridges and furrows alternately arranged: the posterior surface of the patella showed the same peculiarity; so that, when the two were in apposition, an interlocking was the result: but, at the same time, ginglymoid motion was freely executed. The encrusting cartilage had disappeared from both these surfaces, and porcellaneous material occupied its place.

The second specimen was from a man of 60 years of age, and showed the same peculiarities, with the exception of the establishment of surfaces of eburnation to a less degree, though the cartilage had been absorbed to the like extent; the subjacent bone was in part porous, and in part porcellaneous; a loose cartilage was found in this joint, of an oval form, and situated near the intercondyloid notch.

The third articulation was from a middle-aged man who had long laboured under the symptoms of chronic rheumatic arthritis in the knee and hip of the same side. In the latter joint the disease had committed extensive ravages; in the ligamentous tissues, large and small, irregular-shaped osseous growths were to be seen, and around the tibial glenoid cavities similar deposits had considerably deepened the surface for the femoral condyles; the external semilunar cartilage was wholly removed, so that the femur and tibia were here in contact; their opposed surfaces were much expanded, and covered by a continuous and uneven stratum of ivory-like deposit. A large number of loose and adherent cartilages were in the joint, and which varied in consistence from the cartilaginous to the osseous.

Mr. Prescott Hewett exhibited a specimen of

Omental Sac in a Scrotal Hernia,

and remarked that he had great pleasure in being able to bring it before the Society, as it served to confirm the accuracy of the opinion which he had ventured to express in a paper published some years back, in the Medico-Chirurgical Transactions. In speaking of the formation of complete omental sacs in hernia, he had thus described the origin of one variety of this disease:—"An epiplocele takes place, and the portion of omentum which is protruded becomes altered in structure, and its folds firmly united to each other by the effusion of lymph; but within the abdominal cavity, in the neighbourhood of the ring, the folds into which the omentum has been drawn may not be agglutinated: they will thus leave spaces into which a knuckle of intestine may insinuate itself, pass through the ring, and form for itself a bed in the altered mass of omentum which is in the hernial sac. It may happen that two or three portions of gut may slip into the different spaces left between the folds of the omentum, and subsequently form for themselves separate pouches. Several separate sacs, with narrow necks, may be thus found in the omental mass which is in the hernial sac."

When that paper was written, Mr. P. Hewett had not yet met with any case of this peculiar form of omental sac, neither had he been able to find any published notice of it: the present specimen he found by chance, some two or three years subsequently, in the body of a person who had died of some other disease. In this specimen the omentum in the hernial sac was of the shape and size of a common pear: it was intimately united throughout to the hernial sac, and the greater portion of it, very much thickened, formed a perfectly solid mass; but close to the external ring, and in the inguinal canal, it was only slightly thickened and drawn into folds, in the centre of which was a well-formed pouch, large enough to lodge a good-sized coil of intestine. One extremity of this pouch reached a little lower than the external ring; the other was in the belly, and about an inch higher up than the internal ring: at this entrance into the pouch the various folds into which the omentum was drawn had become united to each other by their margins only, and thus formed a complete ring, the circumference of which was very firm in texture, and the size about that of the middle finger: above this ring the omentum was quite healthy in structure.

Such a case as this might, it was very evident, become extremely perplexing to the surgeon. In this patient, a convolution of intestine dropping into the pouch thus formed in the omentum, might have become strangulated by the adventitious ring, and the surgeon cutting down upon the hernia in the scrotum would there have found simply a solid mass of omentum; and, had he not proceeded to examine the parts, in the neighbourhood of the external ring, would never have discovered the bowel in the omental sac; and, even supposing that he had discovered this sac, to relieve the strangulation he would have been obliged to have laid the whole of the inguinal canal freely open, and to have got into the abdomen to divide the neck of the sac, which was an inch higher up than the internal ring, and might have been the sole cause of the stricture.

Dr. Beith, R.N., exhibited a specimen of

Chronic Rheumatic Arthritis of the Left Hip, removed from a man, aged seventy-eight,

who, in 1846, was run over by a cart, which caused a fracture of the right arm and a contusion of the left hip-joint, which latter soon became the seat of rheumatic pain. Permanent lameness was the result of the injury, and the patient was subsequently always obliged to walk with crutches. In August 1849, he was again rendered very infirm and helpless, having slipped and fallen backwards. He did not, however, complain of having received any particular injury. On examination, a shortening of the left leg was perceptible, with eversion of the foot: crepitus was detected in the hip. He died of pneumonia a few days ago.

Post-mortem.—The left leg was found to be about an inch shorter than its fellow; foot slightly everted, but readily restored to a proper position. Rotation causes articular crepitus at the hip. Trochanter major of left side rather higher than on the right. Muscles surrounding this joint much wasted; the larger ones had undergone fatty degeneration. Capsular ligament much thickened generally, but especially at the upper and outer part, where are deposited, in the substance of this tissue, thick osseous plates and nodules, having their inner surface more or less smooth. In this situation depend several vascular synovial fringes. The capsule is also much thickened under the psoas and iliacus internus muscles, presenting here, likewise, ossific depositions. The transverse ligament is in a natural state. Acetabulum much deepened, and its circumference generally widened. The encrusting cartilage and ligamentum teres have entirely disappeared. In place of the former is a thick deposit of porcellaneous material, which seems to be above the level of that portion of the cavity in its lower part, which is still in its natural state.

Femur.—Neck horizontal and somewhat shortened; head expanded, especially at the posterior part, so as to overhang the neck by a projecting margin; upper surface of the head extended outwards towards trochanter major, which is below the level of the head; encrusting cartilage absent, except at the lower part corresponding to the Haversian gland. In the remainder of its extent the head presents porcellaneous material. The hip-joint of the opposite side was perfectly healthy.

Dr. Beith also exhibited a specimen of

Extensive Comminuted Fracture of the Femur.

A man, æt. eighty, fell down stairs on the 5th November, 1849, and fractured his femur in such a peculiar way as to separate its upper half into two longitudinal pieces: one fragment includes the lesser trochanter and the posterior portion of the bone to its middle; the other piece comprises the head, neck, and remainder of the shaft, down to the same point. The upper part of the lower fragment, or half of the shaft, has been drawn up by muscular action, so as to pass in a wedged manner between the two upper pieces to a small distance: very complete ossific reparation has been accomplished. On the 15th of March of the present year he again fell, and the result was another fracture very obliquely directed through the lower half of the shaft. In consequence of the advanced age of the patient, his infirm condition, the great constitutional irritation induced by the extension of splints, together with the speedy production of bed-sores, it was deemed advisable to forego, to a great degree, the amount of restraint which the limb, under more ordinary circumstances, would have required. Death from apoplexy occurred on the 27th of May last.

A moderate amount of semi-osseous, spongy material, unites imperfectly the fragments of the last fracture, contrasting strongly with the firm and large quantity of new bone which consolidates those produced by the first injury.

The outer condyle displays the porcellaneous deposit, with the grooves and ridges so well described by Mr. Canton as characteristic of chronic rheumatic arthritis of the knee.

Dr. HARE exhibited a

Kidney, weighing Sixteen Pounds, and which consisted of a congeries of Cysts.

It was removed from a man, æt. 46, whom he first saw in January last for an attack of pleurisy. Under treatment he recovered, and returned to his business till March 5th, when Dr. Hare was again called in. The night previous to this visit he had passed a considerable quantity of very bloody urine, which had apparently given him great relief from a constant pain he had in the left loin. On examination of the abdomen, which had lately become larger than usual, a large tumor was found, extending from the cartilages of the false ribs of the left side to about an inch below the level of the umbilicus, and forwards to within about an inch of the median line. On percussion it was dull, and there was no interval of resonance between the tumor and the cartilages of the ribs; the dulness on percussion extended upwards beyond the lower margin of the latter; the anterior border was rounded, but presented no sign of fluctuation.

In April, a considerable alteration was observed to have taken place in the tumor; it still felt solid and without fluctuation: the lower border extended an inch and a half below the level of the anterior superior spine of the ileum. Its anterior border was deeply notched on a level with the umbilicus, and percussion was resonant at this notch, as also for some distance obliquely across the tumor. It presented very much the physical signs of a double tumor, or of two tumors; on placing one hand over the lower part of the abdomen, and pressing with the other against the left loin, although the tumor could be very slightly moved, it appeared to move as one mass. Dr. Bright, who saw the case, spoke confidently as to its being "all kidney with intestine passing over it, and thus giving the appearance of two tumors;" there was also now a slight interval of resonance between the cartilages of false ribs and the tumor. The urine, which had contained blood two or three times, was now clear.

On December 9th, while at dinner, he fell suddenly from his chair convulsed, and was insensible for more than a quarter of an hour, which was followed by sleepiness, numbness in both hands, and frequent twitchings.

On the 12th, when seen by Dr. Hare, he had a vacant expression, wandered a little, but answered sharply when spoken to; there were slight twitchings of upper extremities. Pulse 72; feet and legs rather œdematous. The tumor appeared much the same as in April, except that it extended rather beyond the median line, and that the notch, at its anterior border, was less marked; its anterior border seemed also to be more overlapped by the intestines, on pressing which from under the hand its edge could be distinguished. Urine pale, without sediment, specific gravity 1008, containing one-tenth albumen.

On the 13th he had two fits, somewhat similar to those on the 9th, and he died on the 16th, probably from presence of urea in the blood.

Examination.—Left pleura not quite so transparent as natural, but free from adhesions. Heart slightly hypertrophied, but valves free from disease. The coverings of a hernia, situated just above the umbilicus, were very thin; the sac empty, but close to it lay a tongue-shaped portion of the omentum, and also a knuckle of dark purplish, much congested, but not mortified intestine, which probably was a portion of bowel which had been previously strangulated. The left side of the abdomen was occupied by an enormous kidney, the intestines being pushed over to the right side. This kidney also extended under the intestines half way across the right half of the abdomen; its upper surface was adherent to the diaphragm, and it had so compressed the spleen that the latter formed as it were a cap to the kidney; the pancreas was carried forwards, and was adherent transversely to its anterior surface, near its upper part; and the descending colon, somewhat contracted, was likewise adherent to its anterior surface, but perpendicularly, so as to divide it into two nearly equal portions.

The kidney measured 15¼ inches in length, 9½ in breadth, and about 23 in circumference, and weighed exactly 16 lbs; it still retained somewhat the kidney shape, but its surface was uneven from the projection of different cysts. It consisted of one enormous congeries of cysts, varying in size from a small pea to a cavity holding more than a pint of fluid; the larger cysts were at the surface, the smaller ones being about the centre; many of the smaller cysts projected more or less into the cavity of the larger ones; some of them contained hydatids; they presented different tints, from a dark purple to a light straw colour (the latter much more rare than the former), according to the colour of the contained fluids; the darker fluid was generally the thickest, and at the bottom of those cysts there was more or less of a dirty red grumous-looking matter, which was wanting in those containing the lighter coloured fluid. The thickness of their walls varied generally in proportion to their size, the larger having the thickest parietes. No trace of the proper structure of the kidney was discoverable. The fluid under the microscope showed an immense number of blood discs (more abundant in the darker fluids), some oil globules, exudation corpuscles, portions of the tubules of the kidney, and a considerable number of plates of cholesterine. The right kidney presented incipient disease of the same kind, and was enlarged to double its natural size.

This patient's father died with a very considerably enlarged tumor.

MEDICAL SOCIETY OF LONDON.

January 11, 1851.

DR. R. BENNETT, PRESIDENT.

New Preparation of the Phosphate of Iron.

DR. ROUTH brought before the notice of the Society specimens of a phosphate of iron made by dissolving the ordinary phosphate in meta-phosphoric acid, and by then evaporating to dryness. Dr. Routh had found this form of iron exceedingly useful in cases where iron was indicated.

Strangulation of the Intestine by a Diverticulum.

MR. NUNN exhibited a preparation of the intestines of a child 15 months old. Death had taken place after six days' illness, accompanied by all the usual symptoms of internal strangulation. A diverticulum was found to exist connected with the small intestine on the one hand, and with a prolongation of peritoneum from the anterior surface of the mesentery on the other. A considerable length, many inches, of the ileum had slipped through the loop thus formed, and had become entangled.

The diverticulum was one of those called *true*—that is, having all the coats of the ordinary intestine; Meckel and Rokitansky described the *diverticulum verum* as being always found between eighteen and twenty-four inches from the cæcal valve; but the specimen before the Society did not appear to confirm the accuracy of that observation.

Mr. Nunn also produced a diagram representing a rent in the mesentery, which had become the cause of strangulation. The case occurred in the practice of Mr. Moore, at the Middlesex Hospital. The anterior boundary of the rent was formed by the termination of the ileum. For a variety of reasons, an operation for the discovery and removal of the stricture was not performed. After the death of the patient it was found that the portion of the small intestine forming the anterior boundary of the rent was so contracted and thickened that it inevitably would have been taken for a constricting band, and of course would have been divided.

Inhalation of Medicines.

Dr. SNOW described a variety of apparatus for the inhalation of volatile drugs. One, to which special attention was directed, consisted of a tin cylinder, three inches in diameter, four inches in height, fitted with a flexible tube and mouth-piece above, and having a floor of talc below: upon the talc the medicines were placed in a little porcelain capsule; a spirit lamp applied beneath allowed the heat to be transmitted to the capsule, but not to the sides of the tin cylinder. When the heat applied to the substance to be volatalised was high, as in the case of opium, Dr. Snow was inclined to think that the result produced was by means of new chemical compounds. Opium, morphia, and meconate of morphia, required a temperature of 400 deg. Fahr. The resulting sublimate presented some, but not all the chemical properties possessed by the original substance.

When it was desirable to mingle the vapour of water with the vapour, a Wolff's bottle might be used, but only with those substances which are volatile at a temperature below 212°; such, for example, as iodine and chlorine.

Dr. Snow appended the results of the trial of a number of volatile medicines at the Hospital for Consumption at Brompton: in some instances great relief had been afforded; in others but little had been effected.

Dr. ROUTH had witnessed, in conjunction with Dr. Cogswell, and other members of the Society, some experiments on the administration of medicines by inhalation, conducted by Mr. White. In seven cases the result had been satisfactory beyond expectation, particularly in one where mercury was used.—Dr. T. Thompson, Dr. Sutro, and Mr. Streeter, also spoke.

ACADEMY OF MEDICINE, PARIS.

Dec. 31, 1850.

Synovial Cysts of the Hand and Wrist.

M. ROBERT read a report on an essay, in which M. Gosselin stated that he had determined the nature of these tumors with more precision than other pathologists. These had been regarded as herniæ of the synovial membrane, but M. Gosselin had pointed out that they consist of the distended follicles of the synovial membrane, their orifices having become obstructed and closed. This view was considered to be confirmed by the analogy of similar morbid conditions of the mucous membrane of the vulva, and other parts.

Cretinism and Goitre.

M. FERRUS read the concluding portion of his memoir on Cretinism.

Hospital and Infirmary Reports.

HÔPITAL DE LA CHARITÉ, PARIS.

Case of Partial Muscular Atrophy. Under the care of M. Rayer.

THERE is a form of disease which, although extremely interesting, has escaped, to a considerable degree, the notice of writers, of which M. Aran has given a complete history in the two last numbers of the *Archives de Médecine.* This disease, to which M. Aran has given the name of *progressive muscular atrophy,* consists in an atrophy which begins in one or more muscles, and gradually extends to a great part of the muscular system, without the general health at first suffering in any way. It was vaguely pointed out by Van Swieten, who attributed it to lead poisoning. Sir C. Bell also refers to a case, which he attributed to local lesion of the nerves. A case is mentioned by Abercrombie; and two others are recorded in English journals. Such was the amount of knowledge thereon when M. Aran, having seen a case of the kind under the care of M. Rayer, directed his attention to the subject, and has since collected eleven cases, of which he has published a detailed account.

Without pretending to give a complete analysis of M. Aran's essay, the following may be stated to be the chief points and most important conclusions:—The weakness is confined to one member, and is increased by fatigue and the action of cold, The first symptoms are slight cramps and twitchings of the muscles; these are followed by emaciation and disfigurement of the limb, so that its actions are more or less interfered with. The atrophy always begins in the superior extremities, and most frequently in the right. The interosseous muscles are usually the first affected. The ultimate consequence is, that the muscular fibre is transformed into cellular or fatty tissue,—such, at least, was the character of the sole instance of degeneration in which an autopsy has been made. M. Aran concludes that the muscular structure is the exclusive seat of the disease, which he considers to consist, in the outset, in an excessive irritability of the muscles, which does not suffer them to retain the nervous influence which incessantly reaches them.

With regard to the etiology, prognosis, course, and diagnosis of the affection, but little can at present be said, so few have been the cases in which it could be observed.

It attacks men more frequently than women (9 in 11 of the cases recorded by M. Aran). It is a disease of adult age: the mean age of the eleven cases has been thirty-six years. The causes which have seemed to give rise to it are excessive, partial, or general labour. Its progress is slow, although in the course of a few months it may include a large number of muscles. It is a very serious disease, as its tendency is always to a fatal termination. To the present time it has in every case withstood both local and general treatment.

This affection is distinct from paralysis, in which the atrophy is consecutive upon loss of motion; whereas in progressive atrophy, motion remains so long as the muscles are not completely destroyed. In the latter, also, all the general symptoms of cerebral or spinal disease are wanting. Hysterical paralysis does not produce atrophy of the muscles. Rheumatic paralysis is confined to the muscles of one region only. Saturnine paralysis is usually limited at first to the extensors of the hand. Lesion of a nerve affects only those muscles to which it is distributed. The last point in diagnosis of this affection is electricity, which has no influence on atrophy of the muscles, but which induces spasmodic action of paralysed muscles.

There is, however, one disease with which it might be mistaken—that is, general paralysis without insanity. The course and symptoms of both are much alike: general paralysis, however, generally commences in the lower extremities with numbness and tingling of the feet—rarely with cramps; it slowly reaches the upper extremities, and involves the speech, causing death when it has arrived at the upper part of the trunk.

After the preceding brief sketch of the disease, the following case, under the care of M. Rayer, will illustrate its study:—

— Gromas, forty-one years of age, admitted on the 4th of November: has had good general health; suffered from pleurisy when four years old: disowned excesses of any kind, neither had he known want; had never worked at any saturnine employment, nor had venereal disease nor rheumatism; was a mason by trade, and had never been overworked: his disease dated seven or eight months; it began with severe pain in the right knee after having been employed during a day in paving. From that time he continued to suffer more and more from fatigue, although he had not discontinued his work until the day of his entrance into the hospital. He had noticed that his left thigh had decreased in size. This limb presented considerable emaciation, especially anteriorly, where the flesh was soft and flabby. Movements of the limb were executed with difficulty; flexion was more easy than extension. The rest of the muscular system presented no alteration. He has never experienced cramps or subsultus. The sensibility of the surface was intact. All the vital functions were duly performed.

The remarkable feature in this case is the seat of the disease, the absence of the ordinary causes and progress: in all other known cases it has commenced in the superior extremities; in this case it had begun and been limited for eight months to the left thigh, and as yet manifested no disposition to extend to other regions. The cause, in the present instance, is involved in complete obscurity.

Correspondence.

ON THE COMPARATIVE MORTALITY OF HOSPITALS.

Sir,—As one of the Medical Officers of an Hospital which holds, as I believe, an undeservedly high place in Dr. Webster's list—in which priority of position implies a greater mortality than those enumerated after it,—I should have written to you, on reading your excellent article on the comparative mortality in the London Hospitals, to give you the average per-centage mortality of the patients admitted into it annually for 5 years, and thus enable you and the profession at large to judge, after comparing it with that of other Hospitals, how far the Westminster deserves the reproach which has been cast upon it; but I understand that the information had already been communicated to you by one of my colleagues. Finding, however, that no notice had been taken of it in your journal of last week, I think I must have been mistaken in supposing it was intended for you, and, therefore in accordance with my original intention, I send you a statement that has been drawn up by our Secretary, Mr. Wilson, whose well-known habitual accuracy entitles it to credit.

"The mortality amongst the Physicians' patients varies from 10·80 to 7·87 per cent. annually; that amongst the Surgeons' patients varies from 8·08 to 5·04 annually; the mortality of both Medical and Surgical patients varies from 8·08 to 6·37 annually. The greatest mortality, these last few years, occurred in 1847, during part of which year influenza prevailed; the least occurred in 1846. The average mortality of all the patients admitted, when not increased by accidental disturbing causes, such as influenza, &c., &c., appears to be about 7·85 annually. In comparing the mortality of small with that of large Hospitals, some allowance ought, I think, to be made for the character of the diseases usually admitted into the former. In Hospitals where there is plenty of room, diseases of the ordinary class are admitted; but in those where the accommodation is more restricted, trifling diseases are as far as possible excluded, and those of a more severe nature are received: hence the mortality in reference to the number of patients ought to be somewhat greater in the small than in the large Hospitals."

I will now, with your permission, make a few observations in addition to those you have so judiciously made on one of the sources of fallacy to which Dr. Webster's mode of calculating the comparative mortality of different Hospitals must be liable. Let us suppose that two beds admit in one year four patients, and that two of them die, the mortality is in this case one for each bed, and 50 per cent. of the patients admitted. Two other beds admit in the same year 30 patients, of whom two die; the mortality here is one for each bed, and 6·66 per cent. of the patients who occupied them: thus by one mode of calculation the mortality is the same in these two cases, but by another it is 7½ times greater in the former than in the latter. After comparing these results, I think it will be clear that no true estimate of the comparative mortality of different Hospitals can be formed from a calculation of the deaths which take place in their beds, unless the number of patients received into each of them, in a given time, be equal,—and this never can be, for not only does the nature of his disease render it necessary that one patient should occupy a bed a much longer time than another, but different medical men have very different notions as to the time patients labouring under similar diseases should be kept in an Hospital. In our own Hospital one medical officer admits 379 patients in a year, another admits only 258; actually 121 less, and relatively to his number of beds (of which he has a few more than his colleague), 181 less. Now, when such difference between the numbers of patients admitted per bed, by two medical officers, can take place in one year, it is obvious that a calculation of the mortality per bed cannot furnish data on which a just notion of the comparative value of their respective practice can be formed; and therefore it must be for practical purposes useless.

Dr. Webster, however, has done good service in directing our attention to the consideration of the comparative mortality of different Hospitals, and therefore deserves the thanks of the profession as having been the first to make an attempt to ascertain it; for the truth of the observation with which you commenced the article in your journal of December 20, cannot be denied, viz., that an accurate statistical return of the comparative mortality in the Metropolitan and Provincial Hospitals would throw great light on the results of practice, and be attended with great benefit to medical science; and therefore, all those who are connected with public institutions ought to feel it to be their duty, as Dr. Webster says, to publish a yearly summary of cases admitted, the number of deaths, and other particulars, throwing light on the treatment of diseases, inasmuch as from them only can be obtained the data from which a comparison of the respective mortality of different Hospitals can be made. For my own part, I feel the force of his observation so much, that I have made arrangements for furnishing you with the number of patients in this Hospital on the 1st of January, and the nature of their diseases; the number of those who shall be admitted, with their diseases, and the deaths which shall take place during the first three months of 1851, as I think a quarterly report preferable to an annual one; and, if the medical officers of the Metropolitan and Provincial Hospitals will also act on your suggestion, and furnish you with a report of their respective Institutions every three months, I have no doubt my colleagues will each, in his turn, send you a similar one for this Institution.

I am, sir,
Your obedient servant,
WESTMONASTERIENSIS.

December 31, 1850.

*** This letter should have been inserted in our previous number. We shall be happy to receive for publication the quarterly return of the Westminster and other hospitals.

Medical Intelligence.

SINGULAR CHARGE AGAINST A SURGEON.

For several days considerable excitement has prevailed in Blackburn, by a report that Mr. Rogerson, surgeon, had branded a boy's forehead with a large letter B, which had been written on by caustic. For some time past Mr. Rogerson had been considerably annoyed by boys continually ringing his bell, and running away. On Sunday week, hearing a forcible pull at the bell, he immediately ran out and caught a boy named Woods, and shut him up in the surgery for a short time; he then got some caustic, and held the boy whilst he rubbed on his forehead the letter B. The youth stated that previous to the act being committed Mr. Rogerson asked what school he had been at. On being told at the Independents', the defendant said "Oh, you are one of that sort, are you? then I'll make an example of you." At the police-office on Monday, Mr. Rogerson was charged with the above offence. It was stated that, from the opinion of several medical men, the mark would never be erased from the lad's forehead during his life. Mr. Rogerson contradicted this assertion, and stated that all appearance would be entirely obliterated in about 12 months. Dr. Martland was of the same opinion. The defendant denied the boy's statement with respect to what school he belonged. Mr. Eccles said that whether the mark would be then obliterated or not made no difference; he should be under the painful necessity of ordering Mr. Rogerson to enter into recognizances to appear at the Lancashire Assizes. Mr. Rogerson, seeing the serious position in which he was placed, applied for an adjournment until Wednesday, in order to consult a legal adviser, which was granted, the defendant entering into his own recognizances to appear on that day.

⁂ We may remark, in order to prevent a repetition of this serious joke, that the act of disfiguring a person is stamped as *felony* by the 1st Victoria, chapter 85, section 5. It is there enacted that whosoever shall cast, throw, or *otherwise apply* to any person *any corrosive fluid* or other destructive matter, *with intent*, in any of the cases aforesaid, to burn, maim, *disfigure*, or disable any person, and whereby any person shall be burnt, *disfigured*, or disabled, shall be guilty of felony. The punishment attached to this offence is transportation for life or for not less than fifteen years—or imprisonment for any term not exceeding three years.

ELECTION OF OFFICE-BEARERS AT THE PATHOLOGICAL SOCIETY.

The annual meeting of this Society was held on the 7th instant. The report, which described the utility and progress of this Society, was read, and the following members were elected office-bearers for the ensuing year:—*President*, P. M. Latham, M.D.—*Vice-presidents*, Benjamin Guy Babington, M.D., F.R.S.; C. J. B. Williams, M.D., F.R.S.; F. H. Ramsbotham, M.D.; *H. Bence Jones, M.D., F.R.S.; Cæsar H. Hawkins, Esq.; Richard Partridge, Esq., F.R.S.; William Ferguson, Esq., F.R.S.; *Edward Stanley, Esq., F.R.S.—*Treasurer*, James Copland, M.D., F.R.S.—*Council*, Richard Quain, M.D.; John Scott, M.D.; Edward Bentley, M.D.; W. Jenner, M.D.; W. M'Intyre, M.D.; *W. Brinton, M.D.; *A. B. Garrod, M.D.; *J. W. Little, M.D.; *Edward Lloyd, M.D.; *T. Ogier Ward, M.D.; John Avery, Esq.; Prescott G. Hewett, Esq.; John Erichsen, Esq.; Alexander Shaw, Esq.; W. Coulson, Esq.; Alfred Poland, Esq.; Samuel Solly, Esq.; *William Adams, Esq.; *John Birkett, Esq.; *George Critchett, Esq.—*Honorary Secretaries*, Thomas B. Peacock, M.D.; George D. Pollock, Esq.

Those gentlemen whose names are marked with an asterisk have not been previously on the Council, or have not held the same office.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 10th instant:—Messrs. J. Bunney, W. H. Paine, G. J. W. Griffith, H. S. Webb, W. D. Grahame, H. B. Hilloost, G. R. Bull, P. D. Kelly, H. Thomson, A. Puddicombe, J. Bain, W. P. Steele.

Selections from Journals.

THE STETHOMETER: AN INSTRUMENT FOR ASCERTAINING THE DIFFERENCE IN THE MOBILITY OF OPPOSITE SIDES OF THE CHEST, AND THUS FACILITATING DIAGNOSIS. BY RICHARD QUAIN, M.D., ASSISTANT-PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST AT BROMPTON.

(*Communicated.*)

This little instrument, which is the invention of Dr. Quain (see fig. 1[*]), consists of a flat case, not unlike a watch case: on its upper surface is a graduated dial and an

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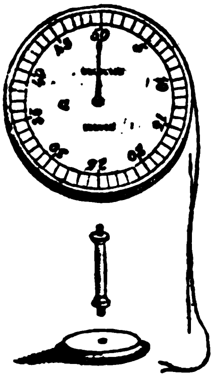
[*] The instrument is reduced in this sketch to half size.

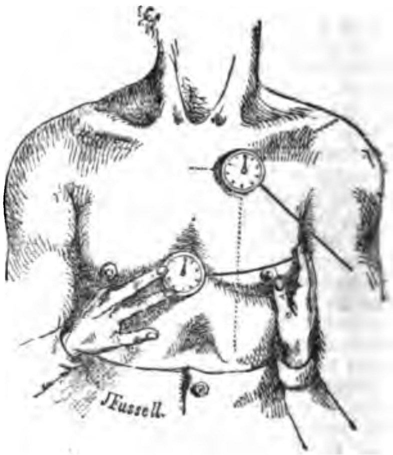
FIG. 1.



index. The case contains a very simple movement, by means of which the index can be acted on. A silk cord, which may be of a sufficient length to surround one-half, or the whole circumference of the chest, passes through an aperture in one side of the case and acts on the index. When the cord is drawn out, or extended for the space of one quarter of an inch, it will be observed that the point of the index will once traverse the circumference of the graduated dial. In other words, when the index has gone once round, it shows that the cord has been extended one fourth of an inch. The index is further capable of going round a second time, on an additional quarter inch of the cord being drawn out. Hence, two revolutions of the index are equal to half an inch of movement—an extent of motion sufficient for all practical purposes.

Mode of application.—It is evident that if the instrument be so placed that extension be made on the cord, the amount of the extension will be shown by the movement of the index on the dial. For example, if the instrument be laid flat on the spine, and held in its place by the first and second fingers of the left hand, whilst the cord is carried round the chest, and pressed on one of the ribs, or the sternum, by the fingers of the right hand, then, when the individual under examination expands the chest during inspiration, the amount of expansion will be communicated to the cord, and thus indicated on the dial. The cord may be then directed around the opposite side of the chest, and thus will be at once seen any difference which exists in the relative mobility of the two at the point under examination. It will, of course, be absolutely necessary in every examination such as this, that corresponding parts of the chest be compared. The instrument may be applied to any part of the chest in the mode here described. In figure 2 it is shown as applied on the sternum, and beneath one of the clavicles.

FIG. 2.



On applying the instrument here, the cord may be directed towards the arm more conveniently than in any other direction, as shown by the black line, and pressed against a point near the insertion of the deltoid muscle. The cord may also be directed downwards, or outwards, and upwards, or inwards (as shown by the dotted lines), and retained on any fixed point. It may be on the bed, or on a chair, &c., always providing that the direction of the cord be such as to receive the impression of the movement of the part of the body under examination, and that its position be symmetrical at both sides.

Uses of the Instrument.—The proposed instrument is offered as a means of ascertaining any want of symmetry, independently of malformation, and therefore indicative of disease, in the movements of the corresponding parts of the chest. Obstruction, for example, of a bronchus by a foreign body in, or by a tumour pressing on it, will interfere with the movements of the side of the chest containing the lung to which such bronchus is distributed. Disease of the substance of the lung, whether tuberculous, malignant, or inflammatory, and emphysema affecting the air-cells, prevent the free expansion of the lungs or parts of them affected. Diseases of the pleura, viz., acute or chronic pleurisy in the form of bands binding down the lung, pleuritic effusions or tumors in the pleura, have a like effect. Pleurodynia, and diseases of the external walls of the chest, may, of course, interfere with the free movements. However trifling the degree of limitation of motion which may be produced by any of those diseases, or by many others not here enumerated—this, instrument, if properly used, must inevitably indicate it. When such limitation is thus observed, recourse must be had to the study of the general symptoms, and to the other means of physical diagnosis, to discover on what the irregularity depends. Thus, then, attention may be, in the first instance, directed by the use of the instrument to the seat of disease; or, when disease has been suspected or discovered by other means, mensuration will be useful in confirming the diagnosis, and expressing the extent of the local lesion. In both these senses, Dr. Quain found the instrument an exceedingly valuable aid in the diagnosis of the earlier stages of phthisis. "Indeed," he observed, "it is remarkable how early, and to what an extent, the respiratory movements are modified by a tubercular deposit. It will, of course, be evident that if both sides of the chest are equally diseased, we lose the means of comparing them; but such an event is one of rare occurrence. The instrument can also be used in investigating the movements of diaphragmatic or abdominal respiration, and in taking notice of any irregularity which may be produced in it by disease of any of the organs placed beneath the diaphragm.

The instrument can also be applied in following changes of volume, whether of increase or diminution, in solid tumors or other swellings. For this purpose, the instrument should, on every occasion of an examination being made, be placed on the same spot, and a definite length of cord should be used in encompassing the part examined; any increase of volume will, of course, be shown by the movement of the index. When it is required to follow a diminution of volume, the index, being made to revolve once or twice, should be thus retained, when the examination is commenced; the stages of its return to the zero point will be then the measure of decrease.

Remarks.—This little instrument reflects very great credit on Dr. Quain's ingenuity. We have tried it, and are inclined to believe that it will be of great use in the instances mentioned in the foregoing description. The principle is good, and the apparatus used for carrying it out is simple, and free from many of the objections belonging to other inventions for measuring the capacity of the chest or the relative mobility of its walls. The principal difficulty we experienced in the use of it was one consequent on the necessary delicacy of the spring. In applying the instrument, it is requisite that the silken cord be first made just so tense, that the slightest tension applied to it by the movement of the chest may tell upon the index; while, if the cord be at all loose at the commencement of the thoracic movement, part of this movement is necessarily lost in putting it on the stretch, and thus fails io be indicated. When it is considered that the object of the instrument is to determine small amounts of difference in the mobility of corresponding parts of the two sides of the chest, it is obvious that the tension of the cord should be exactly alike on examining the two sides, otherwise the information afforded would be but erroneous. We agree, however, with the inventor, that this and other little difficulties in the use of the instrument, may be overcome by care and practice. We understand the instrument has already had a considerable sale, and we congratulate Dr. Quain on the value of his invention being so speedily appreciated by the profession.

PREGNANCY COMPLICATED WITH TUMORS DEVELOPED FROM THE OMENTUM.

Genevieve Previnaire, thirty years of age, of a good constitution, had always enjoyed good health, was married on the 22d April, 1846, and menstruated regularly until December of the same year. She thought herself pregnant, as the catamenia did not appear in the following January. On the 22d February, and on the 25th March, menstruation appeared scantily, and short in duration. In the course of the month of May the patient frequently experienced slight colics, and a sensation of weight and pain in the hypogastric region. A month later she suffered from constipation and difficulty in micturition. These circumstances were attributed to an inflammatory condition of the stomach, intestines, and bladder, and were treated antiphlogistically, but without any amendment. The costiveness became more obstinate, and urination almost impossible. In August the patient was emaciated, the face pinched, the pulse small and rapid. The abdomen, enormously distended with pus, was extremely sensitive to pressure. She had frequent vomiting of mucous and bilious matters. The bowels had not acted for five days, and no urine could be voided for forty-eight hours.

On examination *per vaginam* there was detected a large tumor in the pelvis, of a round form, pressing on the rectum and vagina. The uterus could not be reached. It having been considered that the tumor consisted of the retroverted uterus, the catheter was passed, and attempts were made to restore the organ to its position; but the tumor could not be displaced in the slightest degree. On the following day the symptoms had improved, the bowels had been relieved by an enema passed through a long sound, the features were no longer pinched, the pulse natural, the abdomen soft and free from pain. A pyriform tumor could be felt in the hypogastric region, of the size of an adult head, inclined towards the left iliac fossa, and extending to the pubis. No fœtal movements had been felt by the patient, ballottement could not be produced, and auscultation did not detect the pulsations of a fœtal heart. On pressing other parts of the abdomen, it was with great surprise that, in the left hypochondrium, a body was felt, which contracted under the pressure of the hand. The head and limbs of a child could be distinctly recognised: its frequent and energetic movements were very visible in the abdominal parietes. A considerable space, in which no hard substance could be detected, and which was quite resonant, separated the fœtus from the tumor in the hypogastrium. The pulsations of the fœtal heart, and a bruit de soufflet, could be heard in the left hypochondrium. The patient could not say exactly, but she thought that she had felt the movements of the child in the left hypochondrium since the preceding July.

The patient remained in the same state for several weeks. On the 20th of September the position of the fœtus was changed: the feet were felt in the right hypochondrium, and the head in the left. The patient said that she had felt movements in the uterus similar to those she had experienced in the epigastrium. No contractions could be felt, neither could auscultation detect any sounds in the uterine region.

On the 4th October the fœtus could not be felt in the epigastric region. The uterus appeared to be about the size of the sixth month of pregnancy. The fœtal heart could be heard in the right iliac region, and the placental murmur in the left hypochondrium. To the left of the umbilicus a large tumor existed, presenting inequalities of surface, and insensible to pressure. The os uteri could not be reached, and ballottement was not produced.

On the 10th January, 1848, labour commenced at five in the morning. The volume of the vaginal tumor was sensibly diminished at the inferior straight, though superiorly it retained its former dimensions. The space left between it and the pubis did not admit the passage of the finger; and, although the patient was examined in various postures, it was not possible to reach the os uteri. The labour proceeded very slowly for forty-eight hours. On the 12th January, in the forenoon, the uterine contractions became more frequent, without being expulsive; and towards evening the waters escaped without the formation of the membranous pouch. The tumor which had occupied the umbilical region was now felt in the left hypochondrium. The uterus presented a distinct inclination to the right side. During the night of the 12th and 13th the pains were most intense.

The fœtal heart was still heard beating actively. The condition of the patient did not improve under the influence of the labour-pains. A long trochar was plunged into the tumor: only a few drops of blood escaped. At ten o'clock on the following morning the patient gladly submitted to the Cæsarean operation.

When the abdominal cavity was opened, a large cyst containing puriform fluid was found attached to the uterus. The infant was extracted alive, but died in a few minutes afterwards. It was necessary to detach the placenta from the fundus of the uterus. It was found that the peritoneal cavity contained a great many tumors, developed from the omentum, and forming by their agglomeration a considerable mass. It was impossible to pass the finger from the cavity of the uterus into the vagina, on account of the pressure caused by the recto-vaginal tumor.

The recovery of the patient took place completely. At the beginning of February the difficulty of micturition and the constipation recurred. The patient was soon in a condition which promised to prove fatal. Towards the middle of March, however, the symptoms had all improved. On the 20th of May the catamenia reappeared. In August the vaginal tumor had sensibly decreased in size, and the patient appeared in every respect in sound health.

In February 1849 the patient had continued in good health, and had resumed active and laborious employment. The tumor was gradually disappearing. The space between the abdominal muscles permitted the examination of the omentum, and no trace of tumor could be discovered. The os uteri can now be felt *per vaginam*, and the tumor has entirely disappeared from between the rectum and vagina.—*Gazette Médicale.* X

ON SOME POINTS IN MEDICAL JURISPRUDENCE DEDUCED FROM A SERIES OF POST-MORTEM EXAMINATIONS FOR JUDICIAL PURPOSES. BY DR. CASPER.

1. *Wounds inflicted during life.*—These are usually stated to be distinguishable from wounds inflicted after death by the sugillation which is met with around their edges. In those wounds, however, which are

inflicted by shooting or puncturing one of the large internal vessels, in which death takes place suddenly, without even agony, this sign will be wanting.

2. *External signs of violence absent.*—It is customary, where no external signs of violence are exhibited by bodies found dead, to infer that violence has not been done, and burial is ordered accordingly. Over how many murders has mother earth in this way spread her mantle! In many cases rupture of the ribs, liver, spleen, heart, &c., have caused death, and exhibited no outward signs of the fatal injury.

3. *Death from loss of blood* is usually characterised by the anæmic aspect of the body. It has been stated as a rule that the veins of the membranes of the brain do not partake of this character of bloodlessness. In many cases of rupture, or wounds of the large vessels, these veins have been found completely empty.

4. *The tongue in death by drowning* is said to be always protruded beyond the teeth. Dr. Casper does not deny that this is very often the case, but refers to the details of several instances in which it was found behind the teeth, and to others also of death from different causes—*e. g.*, wound of the heart, poisoning by sulphuric acid—in which it was found protruded.

5. *The uterus putrefies last of all the soft structures, except the lungs.*—This is often seen in the dissecting-room, and more especially so in the bodies of the dead by drowning. Owing to this circumstance the presence or absence of pregnancy can be determined with certainty.

6. *The mark of the umbilical cord on the neck* is not difficult to distinguish, in new-born children, in cases of intentional strangulation, though of considerable importance in a forensic point of view. There will be found in such cases a furrowed, roundish, white mark the width of the cord, certain parts of the neck being slightly sugillated, usually doubly, in many cases trebly. This mark also presents parchment-like spots in different parts of its course, seldom any ecchymosis of importance, and never to the depth of the constriction. The fat of the folds of the skin may in winter assume a parchment-like hardness which might be mistaken for strangulation, but the absence of other signs besides the depression is sufficient to prevent error on this account.—*Casper's Wochenschrift.* χ

A CASE OF REPRODUCTION OF THE INFERIOR MAXILLA AFTER NECROSIS FROM PHOSPHORUS VAPOUR.

In the summer of 1847 Professor Virchow was requested, by Staff-surgeon Sachs, to make an examination of the body of a young girl who had recently died of disease of the lungs, and who had about nine months before lost the left half of her lower jaw by phosphoric necrosis. On examining the state of the maxilla, Hr. Virchow was greatly surprised to find a firm, strong, unusually curved bone, intimately united anteriorly with the sound half of the jaw, and moveable at the joint,—in short, a complete regeneration of the bone. The original necrosed portion of bone was found in its former position: it had given rise to profuse suppuration, and had become so nearly detached from its connections, that it only required division in the middle to be removed with ease. It consisted of the entire half of the lower jaw, with seven alveolar cavities, the angle, the articulating process, and the greater part of the coronary process. It weighed (with a few detached exostoses) 21·790 grammes (= nearly 5½ drachms Eng.), and measured, from the lower border of its angle to the point of separation anteriorly, 3⅛ inches. The anterior portion exhibited, both on its anterior and posterior surface, irregular cavities on its surface, which in many parts was completely destroyed. The canals for the passage of the vessels, especially on the internal border of the alveolar processes, were much enlarged. The posterior surface of the bone, from the posterior foramen along the extent of the molar teeth, presented the appearance of pumice-stone—a dirty grey colour, and its surface was studded with small exostoses.

The new bone exhibited the outward form of the necrosed portion. The body was irregularly round. The alveolar processes replaced by a flat surface, pierced by a canal for the vessels. Along its lower border to its angle it measured 3¾ inches. It was sharply curved anteriorly. The angle of the bone was of the same shape in both, only that it was more acute in the new bone. The length of the processes corresponded. Both the processes terminated in small points, to which were attached stout ligamentous bands, by which the bone was connected to the adjacent parts: a true joint had not been formed. Above the angle, in the middle of the ramus, was a circular aperture half an inch in diameter. It was filled up by yellow fibrous tissue, which united at this spot the two layers of periosteum, and through which numerous vessels passed to be distributed through grooves or canals in the bone. This bone weighed 37·820 grammes (between 9 and 10 drachms Eng.); it had a reddish colour, and a slight spongy tissue.

Hr. Virchow appends some remarks to his relation of this case, pointing out that the disease should rather be regarded as periostitis than necrosis, and, referring to notices of other cases of regeneration of the inferior maxilla, to prove that the same may obtain, as is found in the case of other bones.—*Verhandlungen Physicalisch-Medicinisch Gesellschaft in Würzburg*, 1850. χ

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

The Cholera Epidemia. Epistolam scripsit G. Gros. Heidelbergæ, 1850.

Ueber wahre und eingebildete Saamenverluste zur Berichtigung verbreiteter Irrthümer und zum Troste vieler Hypochonder. Von Dr. P. Pickford, prakt. Artze und Privatdocenten an der Universität. Heidelberg, 1851.

On the Diseases of Women, including Diseases of Pregnancy and Childbed, &c. By Fleetwood Churchill, M.D. M.R.I.A. 3d Edition.

Observations on the State of the Skull and of the Brain in Congenital Chronic Hydrocephalus. By F. Battersby, M.B. T.C.D.

Remarks on Insanity: its Nature and Treatment. By Henry Monro, M.B. Oxon. Two Parts.

Notes of a recent Visit to several Provincial Asylums for the Insane in France. By John Webster, M.D. F.R.S.

Observations relating to the Science and Art of Medicine. By William Wegg, M.D. Cantab. &c.

On the Cure of Popliteal Aneurism by Pressure at the Groin. By J. O. Ferrall, M.D.

The Philosophy of Vital Motion. By C. Bland Radcliffe, M.B. &c.

On the Use and Management of Artificial Teeth. By John Tomes, F.R.S. &c.

Braithwaite's Retrospect of Medicine. Vol. 22—July to December 1850.

The New York Register of Medicine and Pharmacy. Edited by C. D. Greswold, M.D. Nos. 6 and 7. Vol. I.

The Boston Medical and Surgical Journal. December 1850.

The Journal of Psychological Medicine and Mental Pathology. No. 13, Jan. 1.

Edinburgh Medical and Surgical Journal. Jan. 1, 1851.

The Quarterly Journal of the Chemical Society. Vol. 3, No. 4. Jan. 1851.

Journal de Chimie Médicale. Janvier.

Comptes Rendus. Nos. 25 et 26, 16 et 23 Décembre.

Henke's Zeitschrift für die Staatsarzneikunde. 4tes V. H. 1850.

Casper's Wochenschrift f. d. gesammte Heilkunde. Nos. 48, 49, 50. 30th Nov. to 14th December.

The London and Provincial Medical Directory. 1851.

The Physicians', Surgeons', and General Practitioners' Visiting List, Daily Almanack, and Book of Engagements for 1851. London: J. Smith.

A Medical Almanack and Companion to the Physicians', Surgeons', and General Practitioners' Visiting List for 1851. London: J. Smith.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 11.

BIRTHS.		DEATHS.	
Males....	792	Males....	492
Females..	788	Females..	531
	1580		1023

CAUSES OF DEATH.

ALL CAUSES	1023
SPECIFIED CAUSES	1021
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	173
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	41
2. Brain, Spinal Marrow, Nerves, and Senses	119
4. Heart and Bloodvessels	44
5. Lungs and organs of Respiration	275
6. Stomach, Liver, &c.	55
7. Diseases of the Kidneys, &c.	12
8. Childbirth, Diseases of Uterus, &c.	7
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin	1
11. Premature Birth	30
12. Old Age	43
13. Sudden Deaths	9
14. Violence, Privation, Cold, &c.	17

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	16	Convulsions	47
Measles	21	Bronchitis	136
Scarlatina	16	Pneumonia	96
Hooping-cough	43	Phthisis	123
Diarrhœa	15	Lungs	7
Cholera	0	Teething	14
Typhus	35	Stomach	5
Dropsy	15	Liver	10
Hydrocephalus	21		
Apoplexy	14	Childbirth	5
Paralysis	17	Uterus	2

REMARKS.—The total number of deaths was 139 *below* the average mortality of the 2d week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·68
" " " Thermometer[a] ...... 42·2
Self-registering do.[b] .... Max. 58· Min. 26·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·32.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 6° *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. W. Nixon.—We regret that, owing to the length of the letter and the late period at which we received it, we have been compelled to postpone its insertion until next week.—The correction has been made.

Mr. Halman's communication has been received, and will have early insertion.

Lectures.

NOTES OF
CLINICAL LECTURES,
(Delivered at Guy's Hospital, Dec. 1850.)

BY JOHN HILTON, F.R.S.
Surgeon to the Hospital.

IN my last Lecture I concluded with some remarks on a case of Ulcer external to the Anal Aperture, and in continuance of this subject the next case for our consideration comes under the 2nd variety of ulcers: arranged according to their exact position as described at our last meeting, it may be considered a good example of—

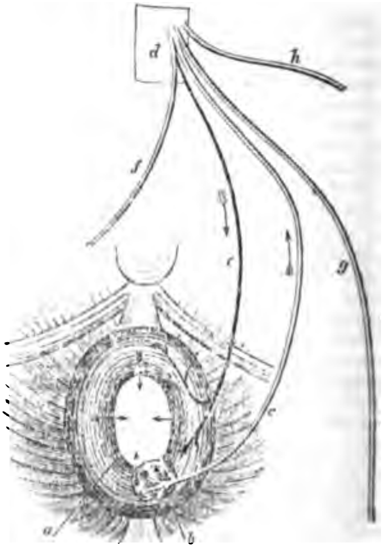
Irritable Ulcer within the direct embrace of the circle formed by the Internal Sphincter Muscle.

R. H., æt. 38, was admitted into the Hospital under my care, on December 4th, 1850: he is a hale, stout, and powerful man, by occupation a blacksmith, residing in Warwickshire. He appears to have drank rather freely, but has lived well, and until the commencement of his present illness enjoyed general good health. About 5 years since he became the subject of what was thought to be hæmorrhoids, and at the same time suffered severe pain in the rectum, and straining during defæcation, which lasted for a few hours afterwards: his bowels at the time were quite regular: the evacuations were followed by a small quantity of slimy matter, and the stools were now and then streaked with blood: this weakened him, and caused so much distress as to lay him up for a period of seven weeks, but after the use of some kind of injection these symptoms were quite relieved, and he apparently soon recovered. Occasionally, however, from that time up to twelve months since, he has been subject to attacks of pain of a similar character to that which he formerly suffered from, but which was soon relieved by the use of aperient medicines, and at the same time regulating his diet and habits. Five months ago the pain in the rectum became much aggravated, and has continued more or less up to the present period, but about three weeks since it became most acute during, but more especially after defæcation had been completed, when the pain lasted for a period of 5, 6, or 7 hours: he now noticed a slight purulent discharge from the rectum, occasionally streaked with blood; his bowels are habitually constipated, and his symptoms have been alleviated by the bowels being kept open by castor oil. On admission he complains of intense aching pain around the anus, which is somewhat relieved by diffused external pressure, as well as of a burning sensation during the passage of the fæces, which gives him the greatest horror of defæcation. The introduction of the speculum for the purpose of examining the rectum caused most severe pain, when a glassy, irritable-looking ulcer, about the size of a sixpence, was discovered, just within the embrace of the internal sphincter muscle, and on its posterior aspect, where it was connected with the base of an external pile: ordered castor oil mixture three times a-day. On December 10th, his bowels having been freely opened twice daily since his admission, from which alone he felt somewhat relieved from his pain, the patient was now submitted to the influence of chloroform, and when a state of anæsthesia had been induced Mr. Hilton introduced his speculum ani so as to place the slide of the instrument opposite the ulcer; the slide was now removed, and the ulcer could be seen without any difficulty through the fissured space; the internal sphincter muscle was then divided from without inwards by means of a sharp-pointed bistoury cutting directly through the centre of the ulcer; this was accomplished without any pain to the patient: the pile was removed with scissors. A cold sponge was applied externally, and the patient walked to his bed; the pile removed consisted only of hypertrophied cellular tissue.—Tr. Opii, ♏xxx. statim sumend. 11th. He suffered considerable smarting pain for 5 or 6 hours after the operation, but since that time has been quite free from pain or uneasiness in the rectum; he passed a good night, and his bowels have not been disturbed. Pulse, skin, and tongue, natural. 13th. Has passed a motion to-day, for the first time since the operation, without experiencing but little pain: the slight pain which occurred was quite of a different character from that which he suffered prior to the operation. 16th. He feels quite comfortable and free from pain; suffers a little uneasiness during defæcation, but none afterwards; there is still a slight purulent discharge. On the 20th, he was quite well, and free from pain or uneasiness either during or after defæcation; he is to leave the hospital in a day or two. This patient was last heard of on January 12th, when he had resumed his work, and felt perfectly well.

The pain in this case lasted for 6 or 7 hours after the bowels had been moved, and the patient appeared to suffer much more after than during the act of defæcation itself. And, indeed, from the experience which I have had in these cases, this long continuance of pain after defæcation may almost be regarded as pathognomonic of an ulcer being just within the sphincter ani. The situation of the ulcer was in accordance with that which has been most frequently noticed,—viz., on the posterior aspect of the internal sphincter, and in that precise spot where the mucous membrane begins. You will remember, that prior to dividing the sphincter, the patient was placed under the influence of chloroform,—a very valuable assistance, as it not only subdues the resistance of the sphincter muscles, but spares the patient that most acute and excruciating pain from which persons labouring under this affection so commonly suffer on attempting to introduce the finger through the sphincter, and which must have necessarily been increased by the introduction of the speculum. Great difference of opinion prevails in reference to the primary cause of these ulcers: it is the opinion of some surgeons that they originate in a scratch or minute laceration of the mucous membrane by hardened fæces, or by some extraneous body—as from a fish bone or some other rough substance. I am more disposed to think that they originate in a diseased condition of some of the numerous follicles about the lower part of the rectum. In the present instance, however, the ulcer appeared to have commenced at the base of an external pile, which was removed when the sphincter was divided; and it seems reasonable to infer that it may have been caused in this case by the compression of the sphincter exerted upon the inflamed mucous membrane at the base of the pile.

The patient, as I have previously stated, complained of constant burning pain for some hours after defæcation. And I will now proceed to offer some observations as to why the pain is so cutting during the passage of the fæces, and why that smarting burning pain is so protracted and distressing after as to depress the patient both morally and physically. The explanation is easily understood by remembering the healthy anatomy of the part, which consists of a ring of muscle lined by mucous membrane having a very minute and abundant nervous supply: the sensitive and motor nerves are exceedingly large, and the continuance of pain depends on an excitation and subsequent reflex action upon the sphincter muscle; the pain commences, in consequence of the fæces, during their passage over the surface of the ulcer, irritating the nervous filaments exposed on the surface and around the margin of the ulcer: this irritation, conveyed to the spinal cord by means of the sensitive or excitor nerves, is again reflected back to the sphincter muscle by the associated motor or efferent nerves, causing the muscle to contract in direct opposition to the feculent mass which is about to escape. When the fæces have passed, the margins of the ulcer become approximated, the irritation is again set up, conveyed to and transmitted from the chord, giving rise to a continuance of the symptoms produced by the alternate contraction and relaxation of the sphincter muscle. Patients frequently complain of numerous other distressing symptoms—for instance, lumbar pains, pains or cramps in the course and distribution of the sciatic nerves; there exists also not unfrequently irritability of the bladder, and sometimes retention of urine, dependent on a spasmodic condition of the muscles of the perineum. Such symptoms, though generally considered anomalous, may be explained by bearing in recollection the intimate communication which exists between the pudic, lumbar, and sciatic nerves, and those nerves distributed to the anus.

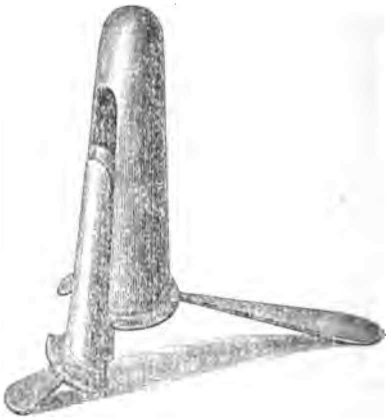
This diagram is intended simply as a map, to illustrate the explanation offered in the text of the symptoms associated with ulcer within the embrace of the internal sphincter ani.



a Internal sphincter.
b Ulcer.
c Excitor nerve.
d Spinal marrow.
e Reflex motor nerve.
f Pudic nerve.
g Sciatic nerve.
h Lumbar nerves.

But how is it in these cases that the pain continues for so long a time as 4, 5, 6, or 7 hours after defæcation has been completed, as occurred in the present instance? It may be thus explained. The sphincter muscle, during its contraction, as I have previously stated, compresses the margin of the ulcer, and gives rise to excitation, which is almost immediately followed by the contraction of that muscle; and in this manner the excitation and contraction continue until the excitability of the muscle is exhausted from over-fatigue. It may here, perhaps, be advantageous to draw your attention to a physiological law in reference to muscular action,—that the more a muscle is used, the more power it acquires, and the more hypertrophied it becomes. Examples of this are frequently seen in the gastrocnemii of the pedestrian, in the right hand of the diligent dissector, and in the trapezii of persons accustomed to carry heavy weights on the head. Hence it is, also, that in stricture of the urethra the muscular tissue of the bladder becomes so greatly developed, in order to overcome the obstruction and difficulty to the passage of the urine through the urethra:—giving rise to an hypertrophied condition of the muscular walls of the bladder: such is likewise the case in stricture of the œsophagus and rectum,—the muscular tissue above the seat of obstruction becomes increased in size so as to overcome the resistance. The same interpretation holds good when applied to the muscle we have been speaking of, viz. the sphincter ani: the excitation takes place perfectly independent of the will, and, in consequence of this inordinate and excessive action, the muscle becomes greatly hypertrophied, and contracts with considerable force and energy, and thus it is from its increase in size and power that we must account for its untiring action during so many hours. Many of you, perhaps, are scarcely aware of the power and endurance of contraction of the sphincter ani muscle in its normal healthy condition: its action in cases of fractured spine with injury to the spinal cord, which most of you have had an opportunity of observing, may perhaps tend to give some idea of it. Patients who have sustained this serious injury suffer from constipation during several days after the accident, having lost the power of volition over the sphincter, in consequence of the injury to the spinal marrow. This muscle remains involuntarily closed, fæcal matter passes down into the rectum, where it accumulates, until at last, from the weight and pressure of the contents of the rectum, the sphincter relaxes, followed by one of those enormous evacuations seldom seen except in cases of this description. I have previously stated that patients suffering from ulcer of the rectum are depressed both morally and physically, and have already pointed out to you some of the causes which give rise to this depression: a further explanation may be afforded, by remembering that the contraction of the sphincter leads to constipated bowels, which induces more or less dyspepsia by producing a disordered state, or disturbing the functions of the chylo-poietic viscera, and so interfere with nutrition, whilst the moral feelings and physical condition of persons suffering from indigestion are too well known and established to need any remarks in explanation at the present time. The first indications for treatment in these cases are precisely similar to those in which the ulcer is situated external to the sphincter muscle—viz., recumbency, and the exhibition of oleaginous purgatives; whilst the precaution should always be taken to give a free dose of castor oil on the morning of the day of the intended operation, in order to clear out the bowels completely, and do away with the necessity of the patient's having an evacuation for several days. Of the importance of this auxiliary to the treatment I am fully convinced, and particularly wish to impress it on your memory. The operation for dividing the sphincter muscle is very easily performed, nevertheless requires to be done with caution, that your incision may not extend deeper than you actually intend or is required. This operation is proposed in reference to the method of contraction of the sphincter muscle, which is towards its own centre; and your object in dividing it is to do away with its contraction in that direction for a short time, so as to allow the fæces to be evacuated easily, and in this way to allay the irritation caused by their passage, whilst the ulcer, being undisturbed by muscular action, rapidly heals up by granulation. The operation being determined on, I would advise you to perform it as follows:—Having ascertained the position of the ulcer, which will most commonly be found to be situated on the posterior part of the rectum, place the patient on his back, or in any convenient position, on a table or bed before you. The speculum should now be introduced, with the slide corresponding to that part of the rectum in which the ulcer is situated; when the ulcer is clearly seen, the internal sphincter muscle should be divided from without inwards by means of a sharp-pointed bistoury carried directly through the centre of the ulcer. Some surgeons, however, object to the division of the sphincter by the knife, and recommend the forcible introduction of the finger through the anal aperture, in order to rupture some of the muscular fibres of the sphincter, and so favour the healing of the ulcer by granulation. This operation is very uncertain in its effects, and I have never yet known it to succeed. Other surgeons advise the introduction of the finger up the rectum, and having passed the straight probe-pointed bistoury upon it, to divide the sphincter from within outwards. This operation requires extreme caution, as you will be liable to wound more than you intended or more than is necessary, especially if the patient should chance to move his pelvis at the moment of the operation. In one instance which has come under my observation, where the sphincter was divided in this manner, the operation was followed by profuse arterial hæmorrhage, which required pressure with the finger for several hours before it could be arrested.

In a second instance the hæmorrhage was so severe from a large artery as to retard the recovery of the patient for a considerable time; and there is not much doubt but that cases have occurred in which the pudic artery itself has been divided by this mode of operation. Another disadvantage, also, is the liability of inflicting a wound upon the surgeon's finger by the subsequent effect of the simple puncture, of which, in operations about the rectum, more than one life has been lost. Another mode of performing the operation is by introducing the conical end of a tallow candle up the rectum, and then, with the sharp-pointed bistoury, dividing the sphincter from without inwards, the point of the bistoury being buried in the candle, when both are withdrawn, and thus preventing the liability of wounding the opposite wall of the rectum. I think, however, it is always far preferable to see what one is about, than to perform an operation as it were in the dark; and it is on this ground especially that I recommend to your notice the speculum ani which I am in the habit of using; in size and shape it resembles the ordinary speculum, being about three inches in length. It differs from it, however, in being of plated metal instead of glass, whilst a quarter of its circumference is made to slide in and out in a small groove. On first introducing the instrument, you should always endeavour to place the slide opposite the ulcer; and having effected this object, the slide should be withdrawn, when the size and character of the ulcer can be clearly seen. The speculum is also furnished with a handle, which places it more under your command during its introduction, and enables an assistant to steady it in any position you may require whilst performing the operation. In addition to the great advantage of seeing what you are about, the speculum also enables you to discover the source, and arrest any hæmorrhage that may arise as the consequence of the operation. Thus, if important bleeding should come on after the sphincter has been divided, do not attempt to withdraw the instrument immediately, but search for the bleeding vessel, and if it proceed from an artery (for branches of the hæmorrhoidal are occasionally divided), place a ligature upon it; but if it be a general oozing of sufficient importance to require its arrest, plug the speculum with lint; by so doing you may make pressure to any extent you please on that part alone where it is required. These remarks apply also to the operation for fistula in ano. Not many months since, I divided the sphincter of a patient in the hospital for this disease, when a small artery bled very freely. By the aid of the speculum, however, I had no difficulty in seeing and securing it, thus placing the patient in a state of comparative safety after the operation, and relieving him and myself from that anxiety and apprehension which must always exist whilst hæmorrhage continues. These circumstances all tend to show the advantage derived in dividing the sphincter, by the use of the speculum, over the other modes of operation which have been recommended; it enables you to see clearly what you are about, and places any hæmorrhage that may occur under your immediate control, and may be compared to performing an operation in the light instead of the dark.



The next question for consideration is the extent of division necessary. And in answer to this, I would advise you to divide the sphincter to about half an inch in depth, cutting directly through the centre of the ulcer. The most perfect operation that can be performed is to divide the muscular fibres down to a sheath of whitish yellow cellular tissue, which lies immediately exterior to the sphincter muscle;

this layer of cellular tissue should not be touched: it cannot, however, always be seen; but when exposed, it affords the most certain indication that the operation has been perfectly completed: when the muscle is divided, a gap, of course, is left between the two portions, and this, after a time, is filled up by white fibrous tissue: muscular fibre never being reproduced: this new tissue, not being contractile, allows an easy passage to the fæces until the ulcer is healed, and when the patient is restored to his usual health, and the sphincter has resumed its normal action, this newly-formed tissue must be regarded rather as an advantage than a detriment to its natural offices, inasmuch as it prevents spasmodic action, and allows the easy escape of feculent matter at all times.

The mode of treatment to be adopted after the operation has been performed may be somewhat varied. I have been sometimes in the habit of introducing oiled lint between the edges of the wound, with the intention of causing it to heal up from the bottom by granulation. This, however, is not absolutely necessary; and its insertion and retention often cause considerable pain to the patient: a cold sponge may be applied externally over the anal aperture or the purpose of checking hæmorrhage and keeping down the temperature of the part. In addition to the ulcer, which in the preceding case was situated within the direct embrace of the sphincter, the patient was also the subject of a small external pile. This I removed with the scissors after dividing the ulcer. On cutting into the pile afterwards, it proved to be nothing more than hypertrophied cellular tissue, covered by a prolongation of the mucous membrane and adjacent skin; and whilst speaking of this, it may, perhaps, not be out of place to suggest to you that when this kind of pile becomes much swollen, the Liquor Plumbi Diacetatis in a pure and undiluted form will be found a most valuable application, as from its astringent properties it corrugates the pile; and in some cases it has acted so well as to do away altogether with the necessity for any further treatment. I will now proceed to point out to you some of those additional circumstances produced or induced by ulcer of the rectum; and amongst the most prominent of these may be mentioned constipation. This I have already alluded to as a symptom in most cases of ulcer of the rectum; but there is another light in which it must be regarded, and the cause of which, on being first discovered, often assumes a very serious character, giving rise to great anxiety and distress to the patient, and respecting which you will be very likely to form an incorrect diagnosis if its nature and origin be not correctly understood. I allude to enlargement of the glands in the neighbourhood of the rectum; and perhaps my meaning may be best explained by first drawing your attention to a state of things essentially similar occurring on the exterior of the body, where the commencement and progress of the symptoms are better noted from being from the beginning under ocular demonstration, and on that account more easily understood. Thus, for example, when a person has an ulcer on the toe, you are not surprised to find an enlargement of the glands in the groin, owing to a morbid fluid having been carried there through the medium of the lymphatics, extending from the ulcer on the foot, and opening into those glands. An ulcer on the prepuce also gives rise to an enlargement of the glands in the groin in a similar manner: so it is with the rectum; an ulcer in its mucous membrane may give rise to enlargement of some of the numerous lymphatic glands situated around the rectum; and these glands, as you will remember, lie close to very important parts, by pressure upon which one can readily understand the seemingly anomalous symptoms which occasionally manifest themselves. Thus in the male these glands are adjacent to the peritoneum, the prostate gland, and the urinary bladder; whilst in the female their contiguity to the ovaries and uterus, &c., may give rise to a new set of symptoms associated with the implication of these organs. So that there is nothing peculiar about these sympathetic glandular enlargements, as they are termed; it is a condition often observed in other parts of the body, and may be explained on common principles. When these glands, however, become enlarged they necessarily diminish the calibre of the gut, by encroaching on its walls, and give rise to one form of stricture of the rectum, with all its attendant symptoms, consisting of pain, straining, and difficulty in voiding the fæces, which, under such circumstances, are passed in small flattened pieces, frequently accompanied also by irritation of the bladder or uterus, and cramps in the lower extremities. Several instances of this sympathetic enlargement of the glands upon the rectum have come under my own observation, one or two of which I will briefly relate in illustration: —

About twelve years since, a gentleman, 25 years of age, had undergone the operation of dividing the sphincter for an ulcer situated at the anal aperture. The wound assumed a very unhealthy aspect, his general health became much impaired, and pelvic symptoms supervened. On making an examination of the rectum, several large, hard, rounded, and tender masses were felt pressing upon the rectum, distant about two or three inches from the anal aperture, and were very much feared to be of a malignant character. The patient was sent into the country for the purpose of improving his general health, when the ulcers healed, and in about six weeks he was quite recovered, without any evidence of glandular enlargements remaining.

A second case came under my notice in May 1849, in a lady, æt. 50, who had an ulcer at and within the margin of the anus, extending inwards to the size of nearly half-a-crown, from which she had suffered upwards of eight months, and which was attended with the passage of blood in the fæces. The rectal glands could be felt much enlarged, and encroaching upon the rectum, giving rise to so much difficulty in the passage of the fæces as to require half an hour or more for the completion of defæcation. I divided the internal sphincter muscle; the enlarged glands disappeared, and the patient perfectly recovered.

It is the opinion of some surgeons that stricture from spasmodic action of the sphincter ani may exist without any local excitant in the shape of an ulcer or fissure; but I have never seen a case in which it has been satisfactorily proved. One case of clonic spasm of the sphincter ani came under my notice where no ulcer could be detected; but in this case there could be no doubt, as the result of treatment proved, that it depended on irritation originating in the prostate gland.

In concluding my remarks on the treatment of these ulcers, I may state that it is not always necessary to divide the sphincter ani. The local applications of mercurial ointment, with belladonna or opium, are sometimes quite sufficient to relieve the patient, at the same time maintaining the recumbent posture, and regulating the bowels by mild oleaginous purgatives. If this does not succeed, nitrate of silver should be applied every second or third day, the object being to destroy the surface of the ulcer and its margins. The application should be carefully made by the assistance of the speculum ani. Nitrate of silver appears to act beneficially by producing a more healthy secretion, and exciting a more healthy action in the part. Opium alone is in some cases of great value as a local application; but you should always watch its use very carefully, as patients are often apt to think that the more they apply the sooner they shall get well; and it has happened more than once that they have become narcotized from its effects.

It does occasionally occur that a patient has two ulcers at the anal aperture at the same time; and under such circumstances, as a rule, it is not necessary to divide both. In this case of double ulcer I would advise you to divide the posterior in preference to the anterior; for if you divide the anterior, the feculent mass, in its escape from the rectum, having a natural tendency to proceed backwards as well as downwards, would sweep over the posterior ulcer, and thus keep up a constant source of irritation: if, however, when the posterior has been divided, the anterior does not heal, apply nitrate of silver to it, and then both will probably heal up: but should the anterior ulcer persist after the healing of the posterior, it may be subjected to the operation of division.

ADULTERATION OF IPECACUANHA.

Ipecacuanha, in the root, is readily known by its peculiar annulated appearance, and is not apt to be adulterated in that state; but, in the condition of powder, it is extensively adulterated. Frequently it consists of only ten or fifteen per cent. of genuine ipecacuanha, mixed with liquorice or sarsaparilla. Sometimes the powder of one of these, mostly the sarsaparilla, with tartrate of antimony and potassa, without a particle of ipecacuanha, is sold under that name. This is a vile fraud, and one liable to produce dangerous consequences.

An amusing anecdote was told to one of the committee, of a druggist who sent some ipecacuanha to be ground. Not being returned as expected, an explanation was asked, when he was reminded that *he had not sent the liquorice root!* In another case, a grocer, when bargaining for making cream of tartar out of the crystals, inquired of the grinder *how many barrels of flour* he should send! Although the grinders and powderers probably mix only the substances sent to them for the purpose by those who employ them, they are—at least some of them—but too willing instruments in the detestable business. One of them avowed to a member of the committee that he had no scruples on the subject; that it was his business to grind what was sent to him; and that the responsibility in regard to the objects for which they were to be employed did not belong to him. With the knowledge of these things, frankly admitted, it is incumbent on the members of our profession to look more closely to the quality of their powdered drugs, and either purchase them in the crude state, or procure them of druggists of undoubted respectability,—without expecting, however, that the manufactured article will be supplied to them at less than the cost of the crude material. —*Boston Medical Journal.*

Original Communications.

AN ESSAY ON

UNHEALTHY INFLAMMATIONS.

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[Continued from p. 104.]

ERYSIPELAS.

There is still a remarkable and very original production in the literature of our own language upon the disease we have now in hand, which it is of importance to its best interests to notice. And, though it will appear to have been introduced somewhat out of its proper place, I could not very well have interrupted the continuity of my subject, when treating of the pathology of erysipelas, without in some degree drawing off the reader from the direct road upon which I have been anxious we should travel along harmoniously together.

The fifth chapter of Mr. Travers' second[*] work on Constitutional Irritation is devoted to the consideration of "constitutional inflammations," the first illustration of which is afforded by the subject of our present inquiry—erysipelas. A *constitutional inflammation!* Herein, as in a nutshell, is comprised the gist of the entire matter—a constitutional inflammation: the constitution of the individual reflected upon or "developed in the part." *Quæ, cum ita sint;*—Let us only admit this, and the endeavour to remove it therefrom, by attacking it in *that part*, with the whole farrago of appliances which we are wont to see the localists address to the same, is about as intelligible an undertaking as though we were to seek to "bale" out (deplete) the Thames at Rotherhithe, with the view to altering or purifying its colour, whilst we left the origin of the evil—the unsoundness of its constitution—untouched. And yet, self-evident almost as are these things to the meanest understandings, we see—and for a long day, I fear, shall be doomed still to see—well-meaning, indefatigable men, employed upon the operation of baling out the parent stream in these constitutional inflammations at those points where its impurities shall stagnate, and there force themselves more particularly into notice; whilst the *source* of the contamination—a contamination pervading no one part more than another, and, every part alike—enters as little into their calculation as though it had no existence at all. Meanwhile, the *endurance* of the *vis vitæ* (God be praised!) is very great. This unbaling a man of his vital powers *does not invariably kill;* and thus, in spite of the best exertions of the doctor, we have every now and then examples forced upon us illustrative of the *cures* which such professors claim for their achievements! That there is no exaggeration in all this, let the case of Mary Carter[*] stand forth and attest.

Now, the truth of all this is admitted by Mr. Travers—at least, it is not gainsayed as relates to the universality of the derangement. But, it is explained by this eminent physiologist in a totally different manner from the expositions of those who argue that the *blood* is the seat and source of the actions which develope the fac-simile of the constitution in the part. In a word, it is upon the *nervous system* that Mr. Travers throws the whole responsibility and odium of those actions which, in their aggregate, compose what the supporters of both doctrines admit to be a constitutional effect. The litigating parties, in fact, resolve all their differences into a simple question of *blood versus nerve.*

Mr. Travers' articles of faith in the matter in hand are so ingenious, if not quite convincing, that, in an inquiry like the present, they demand a fair consideration at our hands.

"In what," Mr. Travers asks, "does the local disease consist?—Inflammation, indicated by a preternatural fulness, colour, sensibility of a portion of the skin derived from the injection of its vessels with red blood—vessels which are in health transparent, and carrying only the colourless part of the blood; which, although capable of being affected by the permanently increased action of the heart, are, nevertheless, so far remote from, or independent of, its ordinary influence, as to be unaffected by the state of the heart's action, and, to carry on actions or processes without any obvious sympathy of the part, as evinced by the general circulation. The sympathies of the skin are peculiar in being more direct with the brain than with the heart,—the blush precedes the sensible increase of the heart's action, if any be perceptible, as the pallor precedes the state of syncope. So, also, the fever of scarlatina, measles, and small-pox, precedes the eruption, and the inflammation of erysipelas precedes the fever. Such an interval, not peculiar to erysipelas, but applying also to cutaneous inflammation from burns and scalds, as well as the injuries of cutting, tearing, and bruising the surface, tends to show that the sympathy is slowly evinced between the heart and skin, as compared with that existing between the latter and the nervous centre. Hence *I consider erysipelas to be a nervous inflammation*, bearing to the actions of the vascular system that irregular and undefined relation which tetanus has to the actions of the nervous system."[*]

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[*] A Further Inquiry concerning Constitutional Irritation and the Pathology of the Nervous System.

[*] Vide London Medical Gazette, for Nov. 8, 1850, p. 790, et seq.

Again,—"The independence which subsists between the capillaries and the heart does not exist between the sentient surface and the brain—the two are in contrast; and it is, therefore, through the medium of the brain—*i. e.*, the nervous centre—that the irritation which acts directly upon the one is transmitted to the other,—it may be slowly, or, not at all. Thus, all the phenomena of local inflammation of the skin may be present, and the heart unroused, as we see continually; the inflammation, which has a deeper seat, or, whatever be its seat, is of a more vigorous character, and, as in direct adhesive or suppurative action, involves the arterial circulation, is quickly enough participated by the heart, as in sympathetic inflammatory fever; that, on the other hand, which is continued under the superintendence of the nervous system by the vascular action of the part, is carried on without rousing the heart's sympathy."[†]

"The seat of such *weak and ineffectual* action," adds Mr. Travers, "is the capillary system, and its action is of the nature of erysipelas."

"Vesication and œdema are purely local actions, *never indicative of power*, but modes of relief under an obstructed or overcharged state—the result of *atony of the system of vessels to which they belong*, or *the forerunners of a dissolution of texture*.

"The preternatural pulsation of the arterial branches, and the sensation of throbbing felt in the contiguity of phlegmon, are not observed in erysipelas. It is to the *venous side* of the circulation that the capillary system inclines, when the balance it holds between the two is disturbed.[*]

"In fine, the expansion of the sentient extremities rendering the skin an organ of most direct and intimate alliance with the brain, and, its being, at the same time, the seat of a vascular system peculiar not less for its subservience to the brain, than for its remoteness and partial independence of the heart,—appear to me to explain phenomena of its pathology not otherwise intelligible, and, first and chiefly, the character of erysipelas."[†]

These original and sagacious observations, if they do not succeed in drawing us away from the toxic rationale of erysipelas, are, yet, highly instructive in another point of view,—that they prepare us to yield a far larger measure of importance to the operations of the nervous centres in this and the allied diseases, than we might otherwise have been disposed to do, subordinate and indirect only as we may regard them in the part which they play in the general phenomena. And here I beg leave to allude to the force with which I have myself endeavoured, in another place,[‡] to insist upon the necessity of keeping the nervous system prominently before us in our dealings with the present class of disorders, the only difference between Mr. Travers's views of its importance and my own being, that the one regards it as primarily, the other as only secondarily, implicated.

Mr. Travers continues—and I accompany him along his graphic road with abundant satisfaction—"What is the effect of simple injury upon a habit predisposed by age, infirmity, and irregular state of the secretions, bad atmosphere and diet, debauchery, &c., or, upon one previously the subject of slow disease? What is the species of inflammation which we apprehend when a wound falls upon the extremities in such an individual? Are not all the causes above enumerated" (alluding to the various predisposing agencies which Mr. Travers had recited) "alike in kind depressing, and such as would contribute to the production of typhoid fever? Is it not upon the brain and nervous system that they act directly, and with especial force? And, what is the direct operation of severe and complicated injuries upon the same system? It is to trouble and depress the tranquil and tonic condition of that system, and the preserving and restoring actions which depend upon it: hence, the inflammation is not sanatory, but destructive" (pp. 133—4). "Now, these are the circumstances" (referring to the long-continued operation of local sources of irritation, such as dead bone, abscesses, &c.) "in which erysipelas continually makes its attack with greatest severity; for, it is *never a primary disease*, whether acute or chronic, whether set up by an invisible or an obvious cause, whether removed by the aid of medicine, or resisting its operation altogether." Would practitioners but recognise these great truths at the bed-side as well as in the closet, the empire of large depletions, and of active resistance to nature generally, under such circumstances, might soon be hoped to be no longer heard of.

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[*] Travers, loc. cit. p. 130-1.

[†] Ibid. p. 131-2.

[*] Hunter has made the same observation; and I strongly suspect that this will be found to be a characteristic feature,—pathognomonic of all the local manifestations in the entire family of the blood-poisons; thereby alone affording a rationale of the little amenability of such conditions to depletion. Dr. Marshall Hall, if I remember rightly, in one of his recent papers, makes a somewhat similar remark.

[†] Travers, loc. cit. p. 132.

[‡] Vide Lancet for 1849.

"It is a disease of irritation and of reflected irritation, and there are, doubtless, circumstances vindicating its appearance and determining its site, in the absence of external injury, as clear and cogent as in the visible presence of injury, could we penetrate the veil which surrounds the nervous agency" (p. 134). And then, Mr. Travers, replying to his own query as to "why this mode of inflammation should appear in lieu of the adhesive or phlegmonous species, as a symptom of irritation," sets the matter at rest with himself by explaining that "it is an irritation due to a *morbid condition previously existing*;" which I humbly opine is a somewhat vague and inexplicit explanation, though it may not be difficult to discern what the expression is intended to convey.

"Not only is a certain morbid condition of the system an essential ingredient in the production of erysipelas arising under a variety of circumstances, such as would at first sight appear very dissimilar to each other, but *it is in itself wholly destitute* of *a healthy character*: it forms no stage of a process necessary or intermediate to recovery. Without adhesive inflammation, the suppurative, ulcerative, and sloughing processes are undefined and uncontrolled, and it must be by supporting and rectifying the constitution that we oppose any effectual check to them, and superinduce that healing action when the work of destruction is at an end."

The reader will not fail to notice how strongly Mr. Travers here insists upon the *unhealthy* character of this form of inflammation;—"*It is wholly destitute of a healthy character*," and it can only be by "*supporting and rectifying the constitution*" that the destructive process, when superinduced, can be stayed and brought under subjection.

"Some have called erysipelas a salutary effort of the constitution to eliminate morbid matter, or depurate the blood of vitiated secretions which it has absorbed; others have regarded it as peculiar to broken-down habits, and its fever depending upon a putrescent state of the fluids: others, again, have imagined that its seat explained its peculiarity, and have thought little of remote or constitutional influences, external or internal, and treated it, accordingly, on the same general principles as other local inflammations; and, by one who had seen much of it, it was gravely pronounced to be no inflammation at all, but, an erethysm sui generis." "My own opinion is, from careful reflection on its history and phenomena, that erysipelas derives its local peculiarities from those of its seat,—viz., the membranous capillary circulation; and, from the intermediate influence of the nervous system between this and the heart, and all the other organs of the body, its peculiar pathology. That it partakes, therefore, in the strongest form, the character of a nervous inflammation" (p. 137—8).

Mr. Travers in this passage, it will be observed, disposes rather summarily of the humoral pretensions, in their connection with erysipelas, but does not meet them with any fair objections. Is Mr. Travers satisfied with the explanation of a primary affection of the nervous system in the case of erysipelas of the fœtus in utero; and, in that of its occurrence artificially by inoculation with the fluid taken from a vesicated part in erysipelas, as recorded in the works of some authors?

"The organ most exposed to the operation of external agents is that which puts us in relation with them, presents the largest surface to attack, is organised so as to fit it for the expansion of a sense, and, at the same time, the principal emunctory of the body, and which "maintains an ever-watchful sympathy with every organ and function of the system." And, then, after reciting the sympathies of the skin with the several other organs, he remarks: "But with none is its sympathy so active and so instant ***as with the brain***, of which, in a certain sense, it may be regarded as a production" (p. 138—9).

"What I wish to convey is, that the nervous fibre is so integral a constituent of the surface of the body, that the system to which it belongs exercises a special influence over its condition, both in health and disease, and is roused by its injuries in an extraordinary degree. That the vascular action proper to the surface is directly modified by its agency, in consequence of this quick sympathy between them, and the more circuitous and remote connection and sympathy with the general circulation" (p. 140).

The above extended extracts afford the reader a fair idea of Mr. Travers's conceptions in relation to the rationale of erysipelas. Those conceptions, I need scarcely repeat, demand respect at our hands for the originality which they argue; and more,—they elevate the part sustained by the nervous system in this class of diseases to an importance which they did not previously possess. But, I do not think that his views in any way invalidate the reasoning upon which it is sought to explain the phenomena of this class of diseases upon the blood-poison hypothesis,—if, indeed, they are not in some measure calculated to advance that view of their history. For example, when Mr. Travers demands for the nervous system the merit, or rather the opprobrium, of adopting all those extreme and often tragic phenomena ensuing upon an accident, or, upon exposure, in a habit predisposed to disease, "by an irregular state of the secretions, bad atmosphere and diet, debauchery," &c., and adopting them as its own, I regard it as a *petitio principii* to assume that that system is ***primarily*** responsible for the mischief which ensues; for, what constitutes the habit in question an unhealthy one, but an impure condition of that other system at whose hands its very existence is derived and maintained—***the sanguineous system?*** Mr. Travers himself lays it down that "a certain morbid condition of the system is an essential ingredient in the production of erysipelas" (p. 135), which morbid condition we must presume him to refer, with Girtanner, to one of exalted or diminished irritability of the ***solids*** of the body, if he throws out of the account the blood in the same! Again: in attributing to the nervous system a precedence over the vascular in those phenomena implied by the term "throwing out" in the exanthemata, the sensations of malaise, &c., preceding the establishment of fever, erysipelas, &c., Mr. Travers assumes that the poison giving rise to these disorders neither does nor can alight upon the blood; whereas, I am equally justified in assuming that the blood is the ***first*** to take cognizance of the morbid element, and, that to the play of this morbid blood upon the nervous system are due, and ***secondarily only***, the phenomena and sensations supposed to result from a primary impression upon the latter,—an assumption not the less warrantable, that the blood at this early period, as I have shown by a reference to Dr. Potter's work, betrays indubitable evidence of disease, and this, too, long before any nervous indisposition is complained of.* Again: if the continuance of life be not incompatible with the absence of a brain and spinal marrow (which, from the occurrence, now and then, of such a ***lusus naturæ*** as acephalous and anencephalous monsters, we know that it is not), the existence of disease is not incompatible, either, with such departures from the natural type. Here we must throw ourselves entirely upon the ganglionic centres, in accounting for these morbid conditions of sanguification upon the principles of reflex nervous irritation—which I presume cannot be Mr. Travers' meaning—or, we must be content to explain them through the agency of the blood alone; for, the "ultimate cause" of the several phenemena of life and disease must be the same. We know that the nutrition of a limb does not always suffer when the nerves which supply it are divided by experiment or destroyed by disease; and, in like manner, we see the same limb adopting and supporting the several actions of *diseased nutrition* as well:—in other words, we see it the seat of inflammation.

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* Speaking of typhus, some forms of puerperal fever, erysipelas, &c., the reviewer of M. Sédillot's work on Pyæmia, in a late number of the British and Foreign Quarterly, observes—"There can be little doubt that in these cases a subtile poisonous matter enters and ferments in the blood; and, such explanation will apply to very many of the cases set down by Mr. Travers and his followers, as originating in a primary affection of the nervous system."

But Mr. Travers has* incidentally let slip a remark, wherein, as appears to me, he himself unconsciously advances an argument in favour of the pretensions of the humors. "Does it" (erysipelas) "ever appear, either as a spontaneous affection, or as a result of injury, in a sound condition of the system? I should say never. Of course, *I am not speaking of a rash, as a roseola or an erythema may be termed*" (p. 141). Now, the condition of the capillaries in a roseola or erythema is allied to, if not identical with, the same vessels in erysipelas. Indeed, erythema, by many writers, as I have previously shown, is regarded as nothing more than the first stage of erysipelas. Admitting, then, their very close resemblance, if not identity, with each other, Mr. Travers insists on a necessarily *unsound* condition of the nervous system for the development of the one (erysipelas), but sees no necessary connection between such and the other (erythema): in a word, admits that erythema may be developed in a part otherwise than through the agency of reflected nervous irritation.

But, with the foregoing qualification,—to wit, the *primary* operation of a vitiated state of the fluids,—I heartily concur in the all-important part enacted by the *nervous* system in the phenomena of erysipelas and the allied disorders: in fact, in the case of the entire family of blood poison diseases. The very nature of the changes exerted upon the blood, so far as we can at present appreciate them, by the introduction into it of a poison from without, or, by a spontaneous disturbance of the affinities of its several elements for each other from within, bespeaks an almost necessarily depressing consequence upon the nervous centres. The interruption to the due decarbonization of the blood, and the consequent retention of effete matters therein, as certainly tend directly to depress the heart and capillary system of vessels, as though carbonic acid, carburetted hydrogen, or any other deadly gas, were injected into them from without. In the case of less concentrated forms of poison than these last alluded to, the same thing obtains universally. Behold the depressed condition of the nervous system in the inhabitants of a soil saturated with malaria. I do not speak of their decolorized surface alone, but of the comparative prostration of their entire faculties, mental as well as corporeal. Examine those shipwrecks of our species at Pœstum or the Pontine marshes! The workers in mercury and lead afford further instances of this painful truth.

I shall conclude my notice of Mr. Travers's article on Erysipelas with one other brief citation therefrom, to which I would earnestly invite the attention of those upon whom I may have failed myself to impress a sense of the *atonic* nature of the disease we have been considering:—

"All the predisposing causes of erysipelas are in their nature debilitating, whether unwholesome atmosphere or diet, chronic disease, confinement, anxiety, the long-continued action of alcohol, mercury, antimony, and *repeated bleedings. A person may be as easily blooded into an erysipelas* or a carbuncle as a dropsy. I have seen both fatal to apoplectics who were freely cupped at short intervals as a precaution" (p. 141).

I have a word or two more, on my own part, to deliver myself of in connection with the treatment of erysipelas, before I bring this part of the subject to a close.

In the first place, I heartily concur

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* "There is little question but that poisons are conveyed to the parts on which they act, and produce their effects by immediate contact, and not by the intervention of the brain; for the brain has been removed, and animals poisoned by strychnine, and yet the phenomena of tetanus have resulted."—Williams, On the Morbid Poisons.

This last statement might fairly, I think, be pressed into the disputed question of blood *versus* nerve, with a view to setting the difference for ever at rest.

with Dr. Robert Williams in his condemnation of the modern form of butchery, alias of surgery, as applied to the treatment of the phlegmonous form of the disease—I allude, of course, to the long and deep incisions recommended for that condition. I am perfectly satisfied, with Dr. Williams, that, if the treatment by alcohol be commenced with *in time, and judiciously pushed, instead of interrupted, when the inflammation shall appear to be gaining ground*, the necessity for incisions will not arise at all. It is a murderous line of practice, and one which cannot but exercise a most mischievous influence upon life, where the nervous system is already grievously depressed. In this opinion, I am not insensible to the many weighty authorities which will appear in array against me. The practice has been sanctified by the applause of some of the greatest names in surgery. The distinguished ornament of his profession, whose work, now lying before me, I have just been so copiously laying under contribution, appears to be quite enamoured of the practice:—"I should be at a loss," says he, "to name a more valuable accession to the art, of modern date, than that for which the profession stands indebted to Mr. Copland Hutchinson." In the course of this eulogy Mr. Travers quotes the emphatic exclamation of Mr. Samuel Cooper, uttered in abhorrence of the practice:—"What! are all the principles of surgery now so changed, and is the nature of the human body and constitution so altered, that inflamed parts are to be soothed by maiming and wounding them; or, to use the author's words, by making 'from six to eighteen incisions' in them?" I do think that, even at this distance of time (Mr. Cooper wrote the above in 1825), and with all the subsequent experience we have had of it, this "maiming and wounding" in erysipelas is as highly to be censured for its precipitancy as it is for its unmitigated cruelty. But, let me not be misunderstood. When suppuration *has* taken place, and disorganisation of the subtegumentary tissues threatens to take place, the practice is consistent with the soundest principles of surgery—in a word, is unavoidable. It is when adopted in *anticipation* of those changes that I am anxious to raise my feeble voice against it. Let the reader revert at this point to the striking illustrations I have afforded of this truth in the *extreme* cases quoted from Dr. Robert Williams, in my present paper; and, let him then ask himself if mere swelling and tension of parts can warrant the infliction of long and deep incisions to avert a consequence which will not follow unless precipitated by an active mal-practice on the part of the physician.

Another remark I have to offer in connection with the treatment of the disease is this—that I recommend the practitioner to substitute *brandy* for port wine. The quality of the latter is often not to be relied upon, to say nothing of its being, at times, an ingenious menstruum for the conveyance of logwood and other impurities into the system of the recipient. Brandy is free from this objection, and its qualities less easily obscured than the other. With the understanding, then, that it be good, I have next to urge my brother practitioners not *to be afraid of it*. Let him not indulge in a timid, *piddling* misapplication of its virtues, but throw himself wholly and unreservedly into the arms of this ally. Twelve, sixteen, or twenty* ounces, according to age and other circumstances, may be fearlessly commenced with, and increased if the disease shows a tendency to spread. In patients who have been addicted to the bottle it will be useless to administer *the specific* save in generous proportions.† Strong beef-tea should be given in the intervals; and, in the case of both, let *little and often* be the rule. If the stomach be rebellious, introduce them by the anus. Another observation, and I have done. It occasionally happens, in the course of this disease, —and, according to my own experience, towards its decline—that a smart *epistaxis* shall set in, and originate a suspicion in the minds of those who are ever on the look-out for that spectre, *determination of blood*, that the head is in danger of invasion, and requires to be unloaded. The hæmorrhage arises from a totally opposite cause—to wit, from the dissolved and deteriorated quality of the blood, the loss in whose solid constituents favours its escape from the vessels.

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* I have lately seen a case of low fever, attended with severe hæmorrhage from the bowels, in a boy eight years of age, wherein *twenty-four ounces of brandy were administered in as many hours*. The boy recovered under a very formidable array of symptoms. He was a patient of Dr. Todd's, at King's College Hospital.

† A case of erysipelas that well illustrates the advantages of a stimulating and supporting line of treatment has recently been under the care of my brother officer, Dr. Hallahan, in this hospital. A soldier, 32 years of age (but who, from the combined influences of the bottle and of "wear and tear," had rather the air of a man of 50), was admitted with uneasiness in the perineum and around the lower part of the body generally; next, an erysipelatous blush appeared on the penis, which soon spread upwards upon the abdomen, and, in the direction of each anterior superior iliac spine; the integuments presently sloughed from these several situations, and exposed a large and deep bag in the areolar tissue, presenting altogether a very ugly state of things. For the first five days this patient underwent a slightly lowering treatment, was kept on spoon diet, and without stimulants. His condition up to this time was, in my opinion, one of progressive sinking, when the *whip* and *spur* were happily introduced by Dr. Hallahan as adjuvants in the treatment. Three gills of port wine, with bottled stout, per day, made a

The occurrence of epistaxis in the progress of diseases originating in a morbid state of the blood was significantly pointed out by an early writer,* who, however, exaggerated its dangerous import in such cases:—

"Malignam significationem præbet segnis sanguis stillans è naribus: ex corrosione quippè vasorum, et putrilagine emanat, inuritque certissimam mortem—quià putredo internè cohiberi non potest; ideò periculosissimus censetur sanguinis fluxus ex naribus aut ore. Quidam cum hoc signo nullum vidisse liberatum docent: nos verò unicum solum ægrotum summâ diligentiâ à tanto periculo vindicavimus."

In my next paper I shall take up the consideration of a very interesting subject in connection with the disease we have been considering—to wit, the *Alliances* of Erysipelas.

[To be continued.]

ADULTERATION OF EXTRACT OF COLOCYNTH.

Extract of colocynth is extensively adulterated. In some instances, it is alleged, not a particle of colocynth is employed in making it, but the whole consists of the inferior quality of aloes, with some other worthless ingredients.—*Boston Medical Journal.*

ON THE
EFFECTS OF CONCUSSION OF TH SPINE.
By John Grantham, F.R.C.S.E.

The spinal column considered mechanically is weakest at the convex portion,—that is, in the upper part of the cervical vertebræ, and from the tenth dorsal to the third upper lumbar vertebræ; the ten upper dorsal vertebræ are particularly defended from the influence of shock or fracture by the ribs and sternum, but when there is a yielding in the dorsal vertebræ it will be found to occur at the centre of the arch or greatest convexity of that portion of the spine which is between the fifth and sixth dorsal vertebræ. The purport of this paper is to detail the symptoms and effects of a shock of the spinal column. Concussion is conveyed to the spine when the patient falls from any height; whether the fall be on the head, or feet, or side, the back will receive a proportionate amount of the injury.

The first symptoms will be an inability, with pain, of movement in some part of the muscular structure pertaining to the spinal column. It is in the intervertebral structure of the spine where the first effects of lesion take place, and it will be enough for me to direct the eye of the anatomist to the strong mechanical arrangement of the bones and ligaments, when it will be at once perceived how admirably the bodies of the vertebræ are held together so as to render it almost impossible for any movement to take place apart from that of a general yielding. It will now be readily seen that should inflammatory action be commenced in this structure (intervertebral), and the body be allowed to remain in the erect position, pressure will be made on the seat of injury, pain will be felt, and *waste must ensue;* and for the sake of rendering this statement more evident it may be well to consider the nature of the intervertebral substance. It is lowly organized; having neither vessels nor nerves, the cellular tissue does not become apparent; this cartilaginous structure contains a great quantity of water or serous fluid; according to Beclard "In the adult man the proportion of water which they contain is to the solid substance as two

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wonderful change in his state for the better: healthy suppuration was established, florid granulations set in, and the large extent of open surface cicatrised very soon.

* Heredia, De Angina, p. 100.

and a quarter to one." The cells of this cartilaginous structure are very different from those occurring elsewhere in the animal organization,—they are irregular in size and shape; in the condensed margin of the intervertebral structure the cells are compressed, and lie with their long axes disposed parallel to the surface. It is said cartilage does not readily become atrophied by pressure; I presume this observation must have the condition stated,—namely, when in a normal state, but if otherwise, or according to Bichat's nomenclature it be "organically sensible," then I infer atrophy or waste will be the result of pressure, as the reparative law of this structure would necessarily be imperfect, as every morbid phenomenon must in this structure be characterized by a remarkably slow progress; that inflammation must, as in bones, assume a chronic type, and should a cartilage be divided, in contradistinction to the skin or muscles, it closes instead of separating, the edges of their sections are drawn together, they never disten dor lengthen. The absence of ossification in cartilages proceeds solely from the laws relating to the nutrition of bones. Here nature has placed the limits for the exhalation of the calcareous phospate, as she has also restricted to the origin of a tendon the exhalation of fibrine. The nature of the articulation of the vertebræ is of a mixed character, named Amphiarthrosis, partaking of the nature of Synarthrosis in having the articular surfaces united by means of an intermediate substance, and of that of Diarthrosis in having a considerable extent of mobility. Therefore, should the primary symptoms of concussion of the spine be unobserved, or unattended to by either the patient or surgeon, partial paralysis will ensue, and be succeeded by complete paralysis below the injury or seat of lesion; the difficulty of movement will increase, until the formidable character of the malady will be evident to the most common observer, and on examination it will be found there will be an angular curvature of the spine which can only arise from defect in the intervertebral substance.

Secondly. The assimilative laws of life will be functionally deranged. MM. Becquerel and Rodier state there is invariably a marked diminution of the quantity of the blood corpuscules in the blood in injury of the spinal chord. I have found in such injuries an elimination of the triple phosphates with the oxalates in the secretion of urine. The most important indication in the treatment of such cases is to relieve the injured part from the superincumbent weight of that part of the spine above the seat of lesion, by attention to the general health, and by an active *continued* application of counterirritation to the region of pain. I am an advocate, and have had some experience in the use of the prone position as a mode of giving rest to the spine: I venture to affirm four months is generally long enough to effect whatever good perfect rest of the spine can produce; but the most important and most difficult measure to be adopted at this part of the treatment is being enabled to give the spinal column that kind of mechanical support which may be so applied as to gradually regulate the return of pressure, and at the same time to be sufficient for maintaining the erect position of the body for the restoration of the previously lost muscular support.

It is much to be regretted the great expense of the apparatus needful for these cases prevents their more frequent use; and may it not be narrow policy on the part of our rich hospitals that such cases are considered inadmissible, unless application is made soon after the injury is received?

Postscript.—There is one question which remains unsettled in the minds of the profession,—viz., is it possible to have anchylosis of the bodies of the vertebræ without caries? If so, when the intervertebral structure becomes absorbed, then ossific matter will necessarily be generated without fracture,—a fact of great importance as regards the favourable issue of lesion of the intervertebral cartilages. This question bears some analogy to the one regarding the union by bones of fracture through the neck of the femur.

The more I reflect on the necessity of removing pressure or weight when there may be any injury pertaining to this lowly organized structure, and maintaining a protracted state of quiescence in the early part of the treatment of concussion of the spine, the more am I convinced of the great importance of attending to this injunction.

Crayford, December 16th, 1850.

WHITE CORPUSCLES OF THE BLOOD.

By **Thomas Balman**, Esq.
Surgeon to St. Anne's Dispensary.

In the last number of the "Edinburgh Monthly Journal," Dr. Bennett gives a series of cases in which the blood contained an unusual number of colourless corpuscles. As this subject has lately attracted my attention, and having noticed a somewhat similar appearance, I may be permitted to make one or two observations as to what I conceive to be the real nature of these bodies. The cases which first led me to notice this morbid condition of the blood, and which Nasse had previously observed,* were those of external glandular swellings, chiefly tubercular, and all more or less in an advanced state of degeneration, corresponding in this respect with many of the cases reported in the above paper. Enlargment of the spleen, however, has in no instance come under my notice in connection with this disease.

The point to which I wish more particularly to draw attention is, as to whether the appearance is due in reality to the presence of purulent matter, as Dr. Bennett believes, or, simply to an increase of the normal white globules of the blood. I confess that for a long time I was inclined to entertain the same opinion as regards their being pus corpuscles; but after more careful and repeated observations I have arrived at a different conclusion. Thus, on placing side by side under a microscope a drop of healthy pus and blood containing these colourless corpuscles in unusual quantity, and allowing a drop of acetic acid gradually to insinuate itself between the two slips of glass,—or, what is better, place the blood from the punctured orifice on a piece of glass previously moistened with acetic acid,—the difference will appear sufficiently characteristic. In both the cell-wall is dissolved or rendered transparent, and brings into view two, more commonly three, nuclei; but in the one case the nuclei are round, globular, with well-defined borders, containing frequently a central spot—nucleolus: in the other case the nuclei are much larger, more irregular in form, oblong, without the well-defined edge of the pus nucleus, and sometimes approaching to something of a crescentic form, as delineated in the eighth figure of Dr. Bennett's paper. These observations have been made from blood taken from a great variety of cases, healthy and morbid, and lead me strongly to suspect that the appearance must be due to an increase of the normal colourless corpuscles. I have counted so many as sixty in the field with a quarter of an inch object-glass, variable in size, some being less than half the size of the blood-discs, whilst the greater number exceeded the latter in diameter. I have sometimes noticed patches of granular or amorphous matter collected within some of the meshes much resembling tubercular matter. This, as far as my observations have gone, is peculiar to blood abounding in these colourless corpuscles.

The experiments of Dr. Wharton Jones on the web of the frog's foot would incline me to believe that purulent matter is seldom of long continuance in the blood; but that the corpuscles, acting like a plug of fibrine or other foreign body, would be soon broken up, and the contents of the corpuscles rapidly dispersed in the torrent of the circulating fluid.

I have ventured to make these remarks, not with a view of detracting from Professor Bennett's valuable contribution, but rather to draw the attention of other microscopic observers to the subject.

Liverpool, Jan. 13, 1851.

TEALE'S TRUSSES FOR HERNIA.

In our number for January 3d we called attention to an Improved Truss, and described it as the invention of Mr. Eagland, under whose name only it was known to us. We have received a letter from Mr. Eagland, in which he informs us that the original suggestion of combining a hard pad, anatomically adapted to the part intended to be compressed, with a spiral spring, is due to Mr. Teale, the well-known distinguished surgeon to the Leeds Infirmary. We understand that it is the intention of Mr. Eagland to place this truss in the Surgical Instrument Department of the great Industrial Exhibition.

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* Nasse and Popp state that an increase in the quantity of colourless corpuscles is most frequent in pneumonia and tuberculosis.—*Wharton Jones on Inflammation, in Guy's Hospital Reports.*

MEDICAL GAZETTE.

FRIDAY, JANUARY 24, 1851.

WITH a Government liberal in all things,—even in the tacit support of quackery by deriving a revenue from the sale of patent medicines,—it is not surprising that we should occasionally witness conduct indicative of gross inconsistency. At the advent of the Cholera, a Board of Health was so constituted as not to include one medical member who was likely to command respect for its opinions or decrees. The Members of the Royal Colleges of Physicians and Surgeons were ignored as a body, and the issuing of instructions for persons to treat themselves during an attack of cholera, was entrusted to a committee of laymen wholly inexperienced in medical theory and practice. Now that the Cholera has disappeared, we have a similar non-professional and non-scientific Board reporting on the qualities of water for the supply of the metropolis, and publishing a report chiefly remarkable for the great ignorance which it displays on subjects connected with Medical Police. Under the same Government, while the Poor Law Board will not entrust the care of pauper patients to any person not duly licensed to practise medicine or surgery, the Board of Ordnance acts on a different principle, and, ignoring the diplomas, licenses, and certificates of all the Colleges of the United Kingdom, confers a medical office on a person who has no medical qualification whatever.

We have now before us the correspondence between the medical practitioners of the Cork Union and the Board of Ordnance "on the appointment of an unqualified person to the medical superintendence of the sick of the Ordnance Department in Cork Harbour." It reveals that which we regret to perceive, not merely an inconsistency on the part of the Government in conferring medical appointments upon unqualified persons in Ireland, but a disposition on the part of the superior medical officers of the Ordnance department to sanction such an unfair mode of dealing with the qualified members of the profession. The principle involved is really of great importance to all medical men in the empire, and the facts are comprised in a narrow compass:—

"In or about the month of November, it was known that a MR. WEARE was nominated and appointed by the Ordnance Department, as Medical Superintendent of "the sick of the Ordnance Department in Cork Harbour," in room of Dr. JOHN CRONIN, resigned. From the fact of Mr. Weare *not possessing any Professional qualification*, a highly respectable practitioner, who has always evinced his anxiety in protecting the interests and upholding the dignity of the Profession, deemed it right to confer with his brethren of the Cork Union, on a matter of such importance, not only to the Faculty, but to the Public, and accordingly, he had a meeting of the Medical men of the Union convened, at which, the following resolution was unanimously adopted:—

"RESOLVED,—That Dr. ARMSTRONG, our Secretary, be requested to correspond with the Board of Ordnance, and ascertain whether the Board appointed Mr. WEARE to the Medical charge of the Ordnance Department of Haulbowline and Spike Island, without inquiring whether he possessed any diploma, or legal qualification entitling him to take such charge.

"This Resolution was forwarded by Dr. ARMSTRONG to the Medical Inspector General of the Ordnance Department (Dr. Stewart), in whom, it was presumed, the appointment lay, or whose concurrence in it must have been obtained. The usual period when a reply might, in course, have been received, having elapsed, the Profession was again summoned on the 15th of November, and the application to the Inspector General renewed—still—no reply—the Profession applied a *third* time, but no notice was taken of the communication."

A Memorial was then addressed to the Marquis of Anglesea, as Master General of the Ordnance, respectfully stating that such an appointment, where many qualified medical men would undertake the duties for adequate remuneration, was a great injustice to the medical profession. The memorialists further expressed an opinion that his Lordship, *if aware of the want of qualification*, could not have sanctioned the appointment.

This brought a letter from Dr. Stewart, the Inspector General, from which, as explanatory of the charge of neglect, we quote the following passage:—

"It was from no feeling of discourtesy that I did not sooner reply to your letters, but because my sense of duty did not permit me to enter into a correspondence which commenced with calling in question the conduct of my official superiors. I therefore laid your letters before his lordship, the Master-General; and I am directed to request that you will have the goodness to inform the gentlemen of the Cork Union 'that his lordship must decline giving them the reasons for appointing officers to the department under his charge.'"

In this letter no allusion was made to the memorial addressed to the Master General; and to another application from the Cork practitioners the subjoined answer was returned:—

"Office of Ordnance,
"16th December, 1850.

"SIR,—I am directed by the Master-General of the Ordnance to acknowledge the receipt of your letter of the 14th inst., and of a previous one, dated 5th inst., inclosing a memorial from the medical practitioners of the Cork Union, having reference to the appointment of Mr. Weare to the charge of the sick of the Ordnance Department in Cork harbour; and I am commanded to acquaint you that the Master-General has nothing to add to the reply which he has already given through the Inspector-General of the Ordnance Medical Department, except ***that the inquiries as to the fitness of Mr. Weare for the duty in question having been satisfactorily answered by competent persons***, his lordship must decline to enter upon the point raised by the memorialists.

"I have the honour to be, &c.
"C. PAGET.

"Dr. Armstrong, Cork."

The correspondence closes with the following remarks:—

"The chairman was requested to acknowledge the receipt of the above, and express regret that the only alternative now left was the placing the whole correspondence before the several Colleges, &c. of the United Kingdom, and to inform his Lordship, the Master General, that petitions would be forwarded to both Houses of Parliament on the subject.

"The medical practitioners of the Cork Union having, as they consider, done all in their power, feel it incumbent on them (where so extraordinary a proceeding as the placing in a responsible situation by a Government Board a person totally unqualified), to lay their proceedings before the several Colleges and Examining Boards in the United Kingdom, and to call upon the Presidents, Councils, &c., &c., unequivocally to protest against the employment of quacks in the public service, to the detriment of well-educated and qualified men."

Upon the facts, as stated and admitted on both sides in this correspondence, there can be but one opinion—namely, that the medical practitioners of the Cork Union are in the right, and the Board of Ordnance in the wrong. The conduct of the Master-General, and of those "competent persons" who have aided him by their advice in this proceeding, appears to us to be wholly indefensible. The Master-General is in effect superseding the Colleges of Physicians and Surgeons throughout the kingdom. He is assigning medical offices to men who have received no medical education, and is thereby declaring that special instruction, with proof of competency by examination, is not needed for medical practice. If he be right in this proceeding, the Poor-law Commissioners would be equally justified in replacing the qualified medical officers of Unions by a set of cheap, unqualified substitutes; if wrong, the appointment should be immediately revoked. We trust that the matter may be brought before Parliament; and, as Sir George Grey is now occupied in endeavouring to remove the grievances of the profession, and add to its respectability and efficiency, we trust he will put a stop to this intervention of laymen in medical affairs by rendering it penal on any person, not duly qualified, to hold any appointment in a medical capacity. The advice of individuals, however competent, must not be allowed to have the force of a medical or surgical diploma.

An inquiry of some interest in a medical point of view will be found reported in another part of the present number.* It is well calculated to show that a Coroner's inquest is in some cases calculated to shelter a person from a charge of manslaughter, even where circumstances strongly concur to prove that the charge is well founded. The Surrey Coroner put an end to the inquiry respecting the death of a lunatic, by his refusal to receive the testimony of a patient confined in the same asylum, whereby, as it is justly inferred by the reporter, a keeper, after having locked the door, may use any amount of cruelty, leading to death, in the presence of other patients, and, according to the "Crowner's 'quest law" of Surrey, he is quite protected from that responsibility which would otherwise attach to his act! This is a most dangerous doctrine, wholly unsupported by law or common sense; and, as it will be seen by our report, it was repudiated by the magistrate before whom the case was subsequently heard.

It is probable that the Surrey Coroner has dipped into a book on criminal law, and has found something to the following effect:—"An idiot shall not be allowed to give evidence: Co. Litt. 6, *b*: Gilb. Ev. 144: nor a lunatic (*ib.*), except during a lucid interval."* Much advance has, however, been made in our knowledge of lunacy and lunatics since the days of Coke; and however good as a concise legal *dictum*, and fairly applicable to certain well-marked cases of insanity, it is entirely inapplicable to the present state of the law, the object of which is to do justice between man and man, rather than shelter criminals by a rigorous adherence to the letter of obsolete maxims.

The question now under consideration is wholly irrespective of the guilt of the party charged with the death of this lunatic. It is whether evidence can be fairly or reasonably excluded because it is derivable only from those who happen to be patients in an asylum. The decision of the magistrate to receive this kind of evidence was quite in accordance with justice. The witness fully understood the nature and obligation of an oath: the matter on which he gave testimony was strongly corroborated by all the circumstances, medical and general, proved in the case. He bore a cross-examination without any inconsistency, or showing any disposition to misrepresent, exaggerate, or conceal facts. There was nothing to show that the matter on which he testified, had any connection with an insane delusion (if any) under which he (the witness) was labouring: in short, there was not, so far as we can perceive, the slightest reason for rejecting his evidence. He happened to be confined as a pauper lunatic; and the Surrey Coroner probably acted on the view that there are no degrees or shades of insanity, and that in all cases the disturbance of sense and intellect must necessarily be such as to render any statement untrustworthy. We need hardly observe, that such views can only lead to gross errors and mischievous results. Dr. Ray justly remarks on this subject:—"The fact of incompetence to *testify* is not necessarily connected with that of insanity; and it would be far more correct to consider the former an independent fact, to be established by a distinct order of proofs. The truth is, an analogy in a medico-legal sense has been too hastily assumed between the act of testifying and that of performing business-contracts or other civil acts; and, in consequence, has shared with them in the same sentence of disqualification, without an attempt *to ascertain the kind and degree of intellectual power which they respectively require*. The practice of including them in the same category is certainly not favoured by the present state of our knowledge of insanity, nor does it approve itself to the common sense of mankind."

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* Page 168.

* Archbold's Pleading and Evidence in Criminal Cases, 124.

Reviews.

The Correlation of Physical Forces. By W. R. Grove, M.A., F.R.S., Barrister-at-Law. Second edition. 8vo. pp. 119. London: Highley.

Mr. Grove's work has justly attained the reputation of being one of the remarkable productions of the age. It is one that has already influenced to some extent, and will still further influence, the hypotheses which are assumed for the explanation of the phenomena of nature. The views therein propounded are based on the most extended observation of the operation of the great physical powers, motion, heat, light, electricity, &c. The theory built thereon is constructed, in a philosophical spirit, from the relations existing between these various forces. It may be thus shortly expressed:—When one of these is excited, all the others are set in action. The following illustration of this supposed relational law is quoted from the work before us:—

"When a substance, such as sulphuret of antimony, is electrified, at the instant of electrisation it becomes *magnetic* in directions at right angles to the lines of electric force; at the same time it becomes *heated* to an extent greater or less according to the intensity of the electric force. If this intensity be exalted to a certain point the sulphuret becomes luminous, or *light* is produced: it expands—consequently *motion* is produced; and it is decomposed—therefore *chemical action* is produced. If we take another substance, say a metal, all these forces except the last are developed; and, although we can scarcely apply the term chemical action to a substance hitherto undecomposed, and which, under the circumstances we are considering, enters into no new combination; yet it undergoes that species of polarisation which, as far as we can judge, is the first step towards chemical action, and which, if the substance were decomposable, would resolve it into its elements. . . . . . . Thus, with some substances, when one mode of force is produced, all the others are simultaneously developed: with other substances, probably with all matter, some of the other forces are developed whenever one is excited; and all may be so were the matter in a suitable condition for their development, or our means of detecting them sufficiently delicate" (p. 93).

The term "Correlation," as expressive of the above and analogous facts, is defined by Mr. Grove to be—

"a necessary mutual or reciprocal dependence of two ideas, inseparable even in mental conception: thus, the idea of height cannot exist without involving the idea of its correlate, depth; the idea of parent cannot exist without involving the idea of offspring. It has been scarcely, if at all, used by writers on physics; but there are a vast variety of physical relations to which, if it does not in its strictest original sense apply, the relation cannot certainly be so well expressed by any other term. There are, for example, many facts, one of which cannot take place without involving the other: one arm of a lever cannot be depressed without the other being elevated; the finger cannot press the table without the table pressing the finger" (p. 94).

Thus it will be seen that the object of Mr. Grove's work is to show that the phenomena of the physical forces are mutually reproductive; that any one force capable of producing another may, in its turn, be produced by it; and moreover, can itself be resisted by the force it produces, as reaction follows action.

We cite one further illustration of the law here laid down. From experiments carefully performed by Mr. Grove, the important discovery has been made that a metal at a certain temperature is capable of setting in action the same series of changes as are excited by the galvanic force; or, to use the words of Mr. Grove,—

"If a substance capable of supporting an intense heat, and incapable of being acted upon by water, or either of its elements—such, for instance, as platinum or iridium—be raised to a high point of ignition, and then immersed in water, bubbles of permanent gas ascend from it, which, on examination, are found to consist of mixed oxygen and hydrogen, in the proportion in which they form water. The temperature at which this is effected is, according to Dr. Robinson, who has since written a valuable paper on the subject, = 2386°. Now when mixed oxygen and hydrogen are exposed to a temperature of about 800°, they combine and form water: heat, therefore, appears to act differently upon these elements according to its intensity; in one case producing composition, in the other decomposition" (p. 45).

Here, then, a correlation is observed to exist between heat, chemical affinity, and physical attraction, from which it may be anticipated that substances now considered to be elementary may ultimately be shown to be compound in the same way that the above decomposition has been effected; or, like another fact adduced by the author, the resolution of a mixture of chlorine and aqueous vapour by an intense heat into muriatic acid and free oxygen.

Heat is described by Mr. Grove as an effect of motion; electricity is also traced to the same cause, and magnetism to electricity. Light is likewise as correctly related to motion in connection with heat and electricity. Chemical affinity, it is well known, is controlled by or elicits respectively one or other of these forces. Motion, lastly, is reproducible through the effects of either of the preceding. We quote from Mr. Grove another example of the correlation of these forces:—

"The spark of light is produced by electricity, electricity by motion, and motion is produced by something else, say a steam-engine—that is, by heat. This heat is produced by chemical affinity—*i. e.*, the affinity of the carbon of the coal for the oxygen of the air: this carbon and this oxygen have been previously eliminated by actions difficult to trace, but of the pre-existence of which we cannot doubt, and in which actions we should find the conjoint and alternating effects of heat, light, chemical affinity, &c. Thus, tracing any force backwards to its antecedents, we are merged in an infinity of changing forms of force; at some point we lose it, not because it has been in fact created at any definite point, but because it resolves itself into so many contributing forces, that the evidence of it is lost to our senses or powers of detection; just as, in following it forward into the effect it produces, it becomes, as I have before stated, so subdivided and dissipated as to be equally lost to our means of detection" (p. 103).

The views which we have now brought under our readers' notice have been crudely and indirectly glanced at by a few previous writers, but by no one had the theory been explicitly propounded and traced through the manifestation of the forces producing motion, heat, light, electricity, magnetism, and chemical affinity, until in a lecture delivered at the Royal Institution, in the year 1842, Mr. Grove first brought it before the scientific world in a substantive and intelligible form.

This volume, now in its second edition, contains a further exposition of the phenomena which indicate the Correlation of physical forces. It is written in a clear and connected style, which renders it intelligible to readers who are even but slightly familiar with the terms of science; while to those whose scientific attainments are extensive, the review of some of the most important facts of physical science, the consideration of their mutual relations, and of the inter-dependence of their phenomena, must afford reflections of a most instructive and attractive kind. Every medical man who pretends to the possession of a complete scientific education, should make himself acquainted with the views of Mr. Grove on the Correlation of Physical Forces.

The Philosophy of Spirits in Relation to Matter: showing the Real Existence *of two very Distinct Kinds of Entity which unite to form the Different Bodies that Compose the Universe,—Organic and Inorganic, by which the*

Phenomena of Light, Heat, Electricity, Motion, Life, Mind, &c., are Reconciled and Explained. By C. M. Burnett, M.D. 8vo. pp. 312. London: Highley. 1850.

Reason and revelation can never be really at issue; but it does not thence necessarily follow that the logical and devout mind is found in one and the same person. The earnest and implicit believer in the great truths of Revelation is not invariably the philosopher whose *dicta* we should receive, as of equal value with the demonstrated facts of science. The *à priori* reasoning which is admissible in physico-theological arguments has its limits, which are too frequently transgressed by the writers of such treatises as that which is now before us.

Without adducing evidence in support of his novel views, the author speaks of the usually recognised efficient *forces* in nature as so many distinct *spirits*. Thus Dr. Burnett talks of the *spirits of heat* and of *electricity*, and in like manner of other forces in operation throughout the physical universe, as he would of immaterial agencies endowed with powers of separate action.

The existence of these latter immaterial spiritual agencies, which Dr. Burnett recognizes in their relation to the mind of the Deity and of man, and to the mental manifestations of animals, are by the author admitted on the evidence of the statements of Revelation, and so far we concur in his reasoning; but to the inference thence drawn and applied to the material facts of nature we demur, as entirely inconclusive.

A few extracts will place before our readers the characteristics of Dr. Burnett's work:—

"If, however, there is any one fact to be taken upon the abstract assertion of revelation, which can nevertheless, from its nature, be quite beyond a physical interpretation, and which, more than any other, goes to prove the impossibility of determining all axioms by a process of philosophical induction, it is the fact of the existence of the spirit of man in every individual of the human family" (p. 18).

Taking a less limited view of spirits, the author remarks:—

"It is, however, to the word of God that we must first trace any real authority for believing in the undoubted and separate existence of spirits. And from the same source is to be derived another fact upon which I have taken occasion to dwell in the following pages. I mean, the *degrees* of spiritual entities; for there is evident and frequent allusion in revelation, not only to the separate existence of the different spirits of the same kind of entity, but also to different kinds of the same spiritual entity" (p. 19).

Revelation, we may observe, does indeed state the existence of good and evil spirits, but there it stops; it gives us no insight into their nature, neither do we at present possess any means by which we can arrive at other than mere conjecture concerning these agents. We therefore must confess that we do not clearly comprehend the force of the author's reasoning, when discussing their attributes in the following paragraph:—

"It requires no argument to show from Scripture that the spirits which animate the brutes are, as well in degree as in kind, different from those which dwell in human bodies. Moreover, those spirits which there are termed angelic, are described, in condescension to our faculties of comprehension, when united to glorified bodies, as having powers far more exalted, in the aggregate, than belong to the spirit of man" (p. 19).

It is obvious that the nature of spirits being nowhere revealed, we cannot logically discuss the differences of their powers or endowments; the utmost that we are told is, that they have a variety of ministerial offices, but with regard to their qualifications for the discharge of these we are left in ignorance.

That the author here transgresses the legitimate domain of scientific induction, we think the following quotation will amply prove:—

"The qualities of uncombined immateriality are indivisibility and omnipresence, as far as regards the created universe" (p. 63).

To test the soundness of this proposition we shall make use of the *argumentem ad absurdum*, by which it will be seen that the author has placed himself on the horns of a dilemma, from which he will find it difficult to extricate himself. We may observe then, that if uncombined immateriality be omnipresent, all spirits are all present in every part of space throughout the "created universe;" but inasmuch as it is not possible that numerous and different spirits can occupy the same identical space at the same moment of time, it is quite clear that the indivisibility and omnipresence of spirits is destroyed. We have never been able to gather from revelation, or from nature, the existence of any other omnipresence than that of the Deity.

Such, then, being the dilemma in which the author has placed himself, "the new Theory of Light," which he has constructed upon this proposition, is entirely overthrown. This "new theory of light" may be thus stated:—

"The qualities of uncombined materiality are specific ponderosity, and indivisibility. This ponderosity is independent of the magnetic influence." "The qualities of uncombined immateriality are indivisibility and omnipresence, as far as regards the created universe" (p. 63.) The blended operation of these two "entities" the author terms "phenomena or modes of action," —light, heat, electricity, &c., are "the active results or phenomena proceeding out of the operation of the uncombined spirits upon created matter," while "shape, colour, divisibility, &c., are the passive results, or qualities resulting from the simple union of the two entities.' "Thus, combustion is the result of the spirit of heat applied to created matter, in which are embodied the primary elements of carbon, hydrogen, oxygen, and nitrogen." Light is the result of the spirit of light upon created matter, "differing in the degree of uncombined spirits on the one hand, and the nature of the created matter on the other" (p. 64).

We can perceive no new, or even intelligible theory in these statements. At the best they consist but of the introduction of a different nomenclature. If the attribute of omnipresence which Dr. Burnett has here given to these physical spirits be contradictory to their multiple nature, still more inconsistent is it with the possession of "varied and graduated degrees of power," and the possession of "a remarkably distinct relation, according to the highest known *mathematical laws.*" Moreover, the attributing to these spirits the control of mathematical laws, entirely destroys the universally accepted meaning of the word "spirits."

In short, we conceive that the author throughout his work begs the whole question. "The phenomena of life," he remarks, "could be no more carried on independently of the *spiritual* substances causing light, heat, electricity, and magnetism, than they could without food or air." This sentence is an epitome of the entire book; we can find nowhere therein any stronger proof of the existence and operation of these spiritual entities than is here conveyed.

The author, we have thus shown, has failed to develope any new views of the nature of physical forces, to which he has merely applied, in a new and forced sense, an old term. His "philosophy of spirits in relation to matter," he will we trust pardon our declining to accept as "philosophy" at all worthy of the name.

In the concluding portions of Dr. Burnett's work we find the nature of angels and devils, discussed, in a spirit of reverent conformity to the statements of Scripture. Of these, however, as well as on the author's observations on the "Spirit of God," we shall only observe that, regarding them, as constituting the best, the soundest, and the most truly logical portion of his work, we must abstain from further remarks,—these subjects being more suited to the pages of a Theological Review, than to those of a Journal of Practical Medicine.

The Journal of Psychological Medicine. Edited by Forbes Winslow, M.D. Nos. 12 and 13. October 1850, and January 1851.

It is with satisfaction we perceive that this excellent periodical has reached its thirteenth number, and has commenced the fourth year of its existence with a valuable series of papers on various subjects of interest in reference to psychological medicine.

In the October number our readers will find a sensibly written article on the case of *Robert Pate,* who was tried for assaulting the Queen. The editor here repudiates that morbid disposition which exists among some medical men to confound crime with insanity, and adopts the view which we have already taken of the facts,—namely, that the jury came to a right conclusion in returning a verdict of guilty. In this number, also, there is a useful contribution on the *Morbid Appearances of the Brain in Insanity,* by Mr. Holmes Coote; and a reprint of Dr. Webster's Notes on the Lunatic Asylums of France. This last-mentioned paper is completed in the January number, which contains numerous articles that will well repay perusal. Among them we may particularly specify one, entitled "*Woman in her Psychological Relations*"—a subject which is well handled, and which presents numerous points of novelty and interest.

A periodical so ably conducted as this, should not want contributors or subscribers in its own department; and we trust, for the credit of those numerous members of the profession who are connected with lunatic establishments, that the praiseworthy efforts of the editor receive that substantial aid which they assuredly merit. Another feature of this publication we must particularly commend. There is no quackery or pretension about it; it does not lay claim for support by depreciating other periodicals, or by absurdly exaggerating its own merits. The commencement of another year is not ushered in by the display of brilliant promises not to be fulfilled,—the names of well-known members of the profession being borrowed or stolen for the purpose of entrapping yearly subscribers. It rests for support on its own merits, as displayed in each number, and not upon a sham list of contributors. Under these circumstances, it cannot fail in the end to command that success which it undoubtedly deserves.

The London and Provincial Medical Directory, 1851. London: J. Churchill, Princes Street, Soho.

A FEW alterations have been introduced into the present edition of this useful publication. Among the most conspicuous of these, is the omission of the Poor Law Medical Staff, for reasons assigned in the preface, and which appear satisfactory. Some other changes have been made: *e. g.* the omission of the "special department of practice," this being sufficiently indicated by the qualification appended to each name. It is only by frequent reference to this publication that its correctness can be fairly tested; but in a casual survey we find titles wrongly assigned to the names to which they are appended, while in other instances the legal title to practise in England is wholly omitted. Thus Sir James Clark appears in this list only as an M.D. of Edinburgh, while his legal title to practise in England as a Licentiate of the College of Physicians, is omitted. There is the same incomprehensible distinction made between L.R.C.P. and M.R.C.P., and between M.D.'s and *Physicians*, as in former editions. *Denis Cronin* shines as an M.D., but Dr. Hue, the senior medical officer to St. Bartholomew's Hospital, appears in the modest garb of a physician, and not an M.D. Dr. Neill Arnott is also degraded to the rank of M.R.C.P., the German M.D.'s "by purchase" taking precedence of one of our most accomplished English physicians. In the General list Dr. Ashwell appears as M.R.C.P.; in the Street list as M.D. Others, described as M.R.C.P. in the General list, appear as "Phys." in the Street list. We are at a loss for an explanation of these inconsistencies.

We do not deny the great utility of this book in the absence of a legal register; but, at the same time, the defects pointed out are calculated to damage it as a work of authority. A stringent act of Parliament is required, to separate the goats from the sheep—the sham foreign M.D.'s by purchase from the *bonâ fide* English M.D.'s by title and education. It is difficult to find in this list any individual who parades a foreign *surgical* qualification; but almost every page bears testimony to the eagerness of English practitioners for a foreign *medical* qualification! The latter is supposed to convey a title calculated to carry weight with the public; the former gives no title: hence probably the difference. But whatever reason may be assigned, it is a subject which is well deserving of notice in medical legislation.

The Physician's, Surgeon's, and General Practitioner's Visiting List, 1851.

A Medical Almanack and Companion to the Visiting List for 1851. London: John Smith, 49, Long Acre.

IT is impossible to have a more compendious and useful companion than the "Visiting List," published by Mr. Smith. It is portable, and precisely adapted to receive a daily record of visits or engagements. There are, in addition, neatly-ruled pages for Memoranda, Addresses of Patients, Drugs and Instruments required, and Vaccination engagements. It may be regarded as an indispensable pocket-companion to a busy practitioner.

The "Almanack" supplies a large amount of useful medical information. In fact, there is hardly any subject of general interest to medical men, and appertaining to a work of this kind, which does not here find a place.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Jan. 14, 1851.

Mr. Solly in the Chair.

Fibrous Tumor of the Uterus in conjunction with Pregnancy.

A woman, æt. 40, pregnant with her third child, was confined at four o'clock in the afternoon. The labour was in every respect natural, and the womb contracted well. Two hours afterwards she was seized with cold chills; and, upon being put to bed, was sick and faint. When seen five hours and a half afterwards, she was in a state of complete collapse. Fearing internal hæmorrhage, and not being certain about the state of the uterus, the hand was introduced. The uterus was found empty, but flaccid. By cold, pressure, maintaining the hand in the uterus, brandy, and laudanum, contraction of a feeble kind was produced, and also a somewhat improved condition of the system generally. She rallied a little, but never fairly got out of collapse: she lived ten days, and died apparently from atonic peritonis.

Upon dissection, the intestinal convolutions were of a dark colour, being smeared with blood, and were united to each other and to the uterus by recent and easily separated adhesions There were three pints of dark venous blood without coagula in the peritoneum, and the tumor, in size and shape like a placenta, attached to the fundus of the uterus: this was covered with peritoneum and reflection from the uterus, and at the angle of reflection it was lacerated to the extent of two inches.

In his observations the author alluded to the uniqueness of the case—to the structure, situation, and growth of the tumor. It seemed as if a malignant character had been implanted upon that originally fibrous. As regards situation, he thought, had the woman not been pregnant, it was the most favourable, and would have produced little inconvenience. He thought also that the tumor, originally of small size, grew with the uterine development. He ascribed the laceration to the tumor being entangled in the convolutions of the intestine, not following the uterine contractions so freely as was necessary; the peritoneum being thus put upon the stretch, and, by the recurrence of pain, giving way.

He drew a contrast between this and another case of laceration of the peritoneum which occurred to him, which has been published, and in which death occurred in twelve hours; and thought the difference in the treatment adopted might have accounted for the difference of time at which death occurred; and, in conclusion, alluded to the fear of rupture of the peritoneum as an additional reason for resorting to the induction of premature labour.

Cases of Rupture of the Liver and Spleen

By Athol Johnson, Esq., F.R.C.S. Lecturer on Physiology at St. George's Hospital, and Surgeon to the St. George and St James's Dispensary, &c.

The author narrates five cases of this formidable injury which came under his care at St. George's Hospital. In the first case death took place almost immediately; the second and third proved fatal at the end of the third day in each case, after some exertion made by the patient. In the fourth case there was very extensive laceration of the liver, with slight rupture of the kidney; but these were found to be perfectly united, and to have healed in a beautiful manner, without any trace of inflammation, when the death of the patient three weeks after the accident, owing to a totally distinct injury (fracture of the spine in the cervical region), afforded an opportunity of a post-mortem inspection. The fifth case, in which the symptoms of rupture of the liver appeared well marked, recovered.

The author remarks that this kind of accident is by no means uncommon, as hospital records prove; that the symptoms are usually sufficiently characteristic—viz. intense pain in the abdomen, especially in the region of the liver or spleen, coming on immediately after a severe blow in that situation; extreme collapse, combined with a very exsanguine appearance of the patient; and a certain amount of distension of the belly, this distension not being entirely tympanitic. The pain so much complained of in the first instance is probably not inflammatory, as no traces of inflammation were found in the first four cases examined after death: subsequently, of course, inflammation may, and very often does succeed, and is attended with the usual symptoms.

The author remarks that this injury is

often considered to be necessarily fatal; it being usually doubted, if the patient gets well, whether any rupture had actually taken place. He therefore considers the fourth case related by him as peculiarly interesting, as, in this instance, the subsequent death of the patient from another cause allowed it to be actually demonstrated that there had been rupture of the liver, which had healed without any bad consequences to the patient. This appears to be the only case of the kind on record. The treatment, the author thinks, should be directed to the following points:—

1st. Rather to favour the state of collapse, guarding, of course, against its going too far, in the hopes of checking the hæmorrhage at the time, and allowing coagulation to take place, so as to arrest it in a more permanent manner.

2dly. To keep the patient in a state of the most perfect rest, not allowing him to make an exertion of any kind himself, and to place him in such a position that breathing may be carried on with the least possible disturbance of the abdominal viscera.

3dly. To prevent the patient from tossing about, as he is inclined to do from the violence of the pain, and so tending to produce fresh hæmorrhage, by means of the free administration of opiates, such as morphia in camphor mixture, with a little ether if the collapse be excessive. If inflammation supervenes, it will be treated, of course, in the usual manner.

After the reading of Dr. Robinson's paper on Fibrous Tumor of the Uterus, and Mr. Athol Johnson's Cases of Rupture of the Liver, Spleen, and Right Lung,

The **Chairman** said he hoped the reading of the second paper did not divert attention from the first, and trusted the meeting would hear some observations from the obstetric authorities present respecting their experience of uterine tumors, and their results in gestation.

Some minutes having elapsed without any observation being made, he again remarked, with respect to the cases of Mr. Athol Johnson, that they presented peculiar interest, from the length of time the patients lived; and that, in surgical practice, they are not often met with; and he (the Chairman) would be glad to hear some opinions respecting them.

Mr. **Lloyd** wished to make some observations, but would not say much on the first paper. As well as he remembered, it was stated that three pints of fluid were found in the cavity. When did this extravasation take place? The convolutions of the intestines were distorted. From the symptoms it would appear to him that the bulk of the fluid was serum coloured by the blood. He considered the other cases read were important, and led to important practice in surgery; and, from thirty years' experience in one of the largest hospitals, he would make the following observations:—If the effusion is large, the patient dies quickly, sinking with rapidity: the symptoms in such cases are not usually those attendant on peritonitis; but believes, if the patients are treated on this principle, they have often lived a considerable time; but the treatment, although that adopted for peritonitis, should not be heroic. He has seen frequent attacks of peritonitis in such cases combated by calomel and opium, leeches, &c.; but death generally arises from this disease. He had seen cases in which attacks of peritonitis recurred frequently, yet, from active depletion and prompt measures, had terminated favourably.

The question was then raised whether, in all cases of fibrous tumor, should premature labour be induced?

Dr. **Reid** had attended a case where there was fibrous tumor of the uterus, and the lady had been now pregnant two or three times; and, although she had suffered considerably during each pregnancy, yet no bad symptom occurred either before or after labour. She had been delivered of twins, and no peritonitis followed. He (Dr. Reid) would not interfere too much in such cases to induce premature labour.

Dr. **Heale** remarked that there was one fact of peculiar interest—the blood not being coagulated, but diffused; that this state is often observed in dead bodies, but that coagulation does take place on exposure to the air. Dr. Heale thought that this showed a peculiar persistence of the body under certain circumstances to retain the blood in a fluid state, and suggested the observation, why it did so in particular cases?

Dr. **Oldham** said he had examined the preparation of the tumor in Mr. Robinson's case, and would make a difference of opinion respecting it. It appeared to him a fibrous tumor enlarged by gestation, and the blood-vessels surrounding it seemed to form a kind of cortex, or shell, they being enlarged by pregnancy; and, as to the cause of rupture, confessed he did not quite concur with him that it was caused by the hanging of the tumor amongst the intestines, there not being sufficient adhesions to account for the resistance; but supposed that, when the uterus suddenly contracted after the removal of the placenta, a great amount of traction would take place just at the angle of reflexion. That this kind of laceration sometimes takes place independent of tumor, from the peritoneum undergoing change, and lacerating the tumor, would favour the tendency to rupture. He then mentioned some cases of fibrous tumors which came under his own observation, one of which occurred in the midwifery department of the hospital, so apparent that the students examined it without any inconvenience to the patient: the pedicle in this case was more slender and moveable than in Dr. Robinson's case; but in none of his cases had he thought of inducing premature labour. Had the tumor been in the cavity of the uterus, progressively increasing, threatening hæmorrhage of the uterine veins, some other line of practice might be indicated; but in his cases they were not likely to interfere. One of the pupils had attended the last-mentioned case: the woman was delivered of twins, and no evil result followed.

The **Chairman** here requested Dr. Lee to favour the meeting with the result of his experience.

Dr. **Lee** had met with an instance in which a tumor enlarged in such a degree as to lie in the way of the child's head, and acted similar to deformity of the pelvis. He had performed craniotomy in such cases, and would treat a case of tumor low down in the pelvis like a case of deformed pelvis. These tumors occupy different situations, in some instances strictly resembling polypi, and, when obstructing the orifice of Fallopian tube, causing sterility. When situated midway, but not interfering with this tube, abortion will result; but when the tumor is situated under the peritoneum, it rises upwards, and pregnancy may take place. Unless where it grows rapidly, he considers the induction of premature labour would be unjustifiable: has seen cases in which the walls of the uterus became softened, and death arose from a low form of puerperal fever: had seen no case of rupture in such cases. He said of late a considerable degree of interest, although not of much practical importance, had arisen as to the diagnosis of this sort of tumor and ovarian cystic tumors. A case had occurred in which, some twenty-five years since, Mr. Lizars, of Edinburgh, was about operating, but, on cutting down, found the tumor adherent to the abdominal walls. This patient recently died, and blood-vessels of large size were found passing from the tumor to the omentum, showing the impossibility of operating. Dr. Simpson, of Edinburgh, had pronounced the tumor ovarian before seeing the ovaries, which were in a perfectly healthy state. A diagram, showing the vessels passing from the tumor to the omentum, was brought before the Society.

The **Chairman** here remarked, in cases such as reported by Mr. Athol Johnson, how important it appeared that the patient be kept in one position, and suggested a strap so adjusted to the bed as to prevent all movement.

Dr. **Robinson**, in answer to the observations on his paper, said it was difficult to say if the blood preponderated over the serum in the effusion; that few could describe a serous fluid tinged with blood; but that his observations were drawn from the peculiar condition of the system, collapse never fairly going off, and the peritonitis being of a small atonic character; for, if a pure case of peritonitis, flakes of lymph would be apparent: that this was the only case he knew of in which some coagulation had not taken place; that perhaps some coagula were in the blood smeared over the intestines. As to the walls of the tumor being true uterine tissue, as Dr. Oldham remarked, the tumor having three lobes—right, left, and centre—two-thirds uterine tissue, one-third fibre;—if that is correct, it seems extraordinary it should be uterine tissue. As to its entanglement by the intestines, it was held back, and did not follow the uterine contractions. But, as Dr. Oldham had observed, there are two small fibrous tumors; and the continual movements of the intestine might entangle them, which, when the peritoneum was put on the stretch, might have ruptured it. In answer to Dr. Lee, he did not advocate premature labour; but if rupture of the peritoneum can take place from a tumor it affords an additional reason why premature labour should be induced. It appeared to him this was a case to justify the induction of premature labour, from the very possibility of rupture of the peritoneum.

Mr. **Athol Johnson** said, rupture of the spleen or liver was not very frequent, and he had never seen a case in which an opportunity was offered for seeing adhesions after such injuries.

Dr. **Copland** remarked that death in such cases usually arose from one of two causes—either concussion of the spinal cord, or effusion of blood, and he believed the suggestion of Mr. Johnson's paper demanded the attention of the Society, although it had not excited discussion.

The **Chairman** had been twenty-seven years in St. Thomas's, but had never remembered having seen a cicatrized wound of the liver or spleen.

Mr. **Lloyd** had seen evidence of appearance only to be accounted for in rupture; but some patients had died of rapid peritonitis without any appearance of rupture after death.

Mr. **Johnson** said he would be glad to be referred to any paper in which a case of rupture of the liver was seen united.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Jan. 9, 1851.

Chronic Gastritis. Dr. WHITTLE.

A YOUNG woman, æt. twenty-three, had been chlorotic for many months, very anæmial, with irritability of the stomach. This occasioned constant vomiting shortly before her death, for about a fortnight previous to which she lay almost comatose.

Post-mortem.—The *head* was quite free from disease, except some degree of congestion; but the *stomach* was found exceedingly contracted, with the mucous membrane puckered up into folds resembling tripe. This was unusual, as the pylorus was so contracted, though neither cancerous nor thickened, as scarcely to admit of the little finger being passed into it. In this state the stomach is generally distended, instead of being contracted. The *uterus* was very small, and the *ovaria* contained numerous false corpora lutea.

Cancer Cells in the Urine. Mr. BALMAN.

The urine of a patient suffering from cancer of the uterus was exhibited under the microscope, and was proposed by the author as a means of diagnosticating the presence of cancer without the necessity for making an examination per vaginam. The urine washing off the cancerous discharge from the vulva, the nucleated cancer-cells were shown to the Society in proof of the value of the test.

Sublingual Tumor from Sudden Distension of the Sublingual Duct. Dr. SANDIE.

The patient was a prostitute, who had been under treatment for syphilis, and was suddenly affected with severe pain under the tongue, accompanied by the rapid formation of a tumor, which quickly pushed the tongue over to the opposite side of the mouth, and occasioned a feeling of suffocation. The tumor rapidly enlarged, and the pain was so acute as almost to occasion fainting. Dr. Sandie felt some hesitation in opening the tumor with a lancet, fearing it might be owing to hæmorrhage from an artery which might have sloughed in the mouth, as he had once seen such a case; but the pain became so extreme that he was compelled to open it, and at least half a teacupful of saliva escaped, though not more than half an hour had elapsed from the first symptom of pain or swelling. No further treatment was required.

Mr. HAKES had met with a similar case in a gentleman in whom the same rapid swelling and intense pain had been experienced; but in this case the obstruction gave way of itself, and a small salivary calculus, the size of a pin's head, was discovered, which had blocked up the duct.

Osseous Tumor in the Right Ventricle of the Brain. Dr. BURGESS.

The patient, for upwards of five years, had suffered from almost unceasing intense headache, without, however, any affection of the sensorial or mental powers. After death, a bony mass, the size and shape of a bantam's egg, was found in the right ventricle of the brain. It was loosely attached to the lining membrane, but no spiculæ projected from it into the substance of the brain.

Case of Abdominal Aneurism. Dr. IMLACH.

Mr. W., aged fifty-two years. About eight years ago he was suddenly seized with severe pain in the small of the back, which confined him to bed for more than six weeks. From this attack he made a slow recovery, and ever afterwards continued to be more or less subject to pain in the back and breathlessness upon exertion. Four years ago he was again laid up for some time with pain in the side and back, supposed to be lumbago. This ended in an attack of jaundice, from which he recovered; but he never regained his strength or flesh after this attack of illness.

At the beginning of the present year his strength failed considerably, and in March he first consulted me on account of pain in the right side and back, severe dyspeptic symptoms, and some difficulty in making water. The urine was loaded with phosphates, and there was evidently a tumor in the region of the right kidney, pressure on which, either from before or from behind, produced great pain. He also complained much of pain shooting from this round the ileum, in the course of the ureter, to the testicle of that side. He frequently had pain about the region of the cardiac aperture of the stomach, and suffered occasionally from palpitation of the heart. I was told after his death that he often complained of difficulty in swallowing his food; but he never mentioned this symptom to me.

Alkaline carbonates, with hyoscyamus and Dover's powder, relieved these symptoms to a certain extent; and as his strength and appetite were rather failing, he went, in the beginning of April, to Greenock, his native place, where he remained for six or seven weeks. As he was going in a car from his house to the Scotch steamer, the pain ceased entirely in the right side, and transferred itself to the left side, where it remained constantly till his death; and the pain in the right testicle scarcely ever returned after this time. In Scotland his appetite improved, but his sufferings increased, so that he had to take large doses of morphine, especially at night.

When I saw him again, at the latter end of May, the right side was full and hard, but the tumor by no means so defined as when I examined it before; and there was also a tumor in the left iliac region. The liver was felt large and projecting; its free margin seemed to pass downwards towards the left side, and to terminate in the newly discovered tumor There was anasarca of the left thigh, and also of both feet. He complained much of his back, which in the lumbar region looked round, instead of showing the usual flatness and hollowness. At this time he suffered much from fever, with frequent rigors, and great depression both of mind and body. The swelling at the upper part of the left thigh became somewhat circumscribed, the tenderness and projection of the spinal column in the loins increased, and the formation of a lumbar abscess seemed not improbable. I could hear nothing on applying the stethoscope to the back, and anteriorly I could hear only the constant rumbling of flatus, which distressed the patient extremely. I was the more careful in listening for a bruit and feeling for a thrill, because I knew of a case attended with somewhat similar indefinite symptoms having died in a public hospital in the course of the spring, in which an enormous abdominal aneurism was found when the body was opened, not a little to the surprise of the medical attendant. In June Mr. W. was too weak to leave his bed, except for a few minutes while it was being made. The anasarca increased rapidly, obscure fluctuation could be felt in the abdomen, tympanitis increased, and the tumor in the left side became so painful that he could not endure to have it handled. He now took morphine, in large doses, at least twice a day. The anasarca became very great, but he continued to have a fair appetite till the day of his death.

A post-mortem examination revealed the following state of parts:—Great anasarca of both legs, and infiltration of the cellular tissue of the back and of the abdominal walls. The thorax contained a large quantity of serum on both sides, and there was also a moderate quantity of dark-coloured serum in the abdomen. The liver, somewhat larger than usual, and showing a little of the nutmeg character, was pushed forwards and downwards out of its usual place close to the spine and diaphragm, so that its apparent increase of size was really the result of change of position merely. The right kidney in the same manner was healthy, and was projected forwards by a swelling immediately behind it. A large tumor filled the meso-colon, and the left kidney was not to be seen or felt anywhere. The tumor was now cut into, and in it was found the left kidney, of the usual length and breadth, but squeezed flat, not more than half an inch in thickness; its usual investing membrane could not be recognised, and it had firm coagula adhering to its external surface: it was, in fact, imbedded in the fibrinous clots of an immense aneurism, which, from its size, had displaced, more or less, most of the abdominal viscera. The blood contained in it was firmly coagulated, and the old coagula were hard and tough. In the midst of its clots were traced the whole of the abdominal aorta, the renal, mesenteric, and common iliac arteries. It communicated with the tube of the aorta, about the root of the cœliac artery, by a rent, which admitted the passage of two or three fingers. The tumor projected into the thorax, about the size of half an orange, and pressed upon the œsophagus where it enters the stomach. The meso-colon, root of the mesentery, and membrane of the left kidney, split up, seemed to form the anterior wall of the aneurism, and it extended a little way into the pelvis. Several of the dorsal, and all of the lumbar vertebræ, with the upper part of the sacrum, projected into the sac; and these bones were all much eroded, particularly on the right side of the spine, where the arches spring from the bodies of the bones. So destroyed were the last two dorsal vertebræ, that it seems surprising the patient was able to walk about so long as he did. The thoracic aorta was lined with atheromatous deposit, but was not (?) larger than usual. The heart was flabby and pale. The lungs, and all the other organs as far as they were inspected, were healthy.

I have to regret that the examination of this body was necessarily made in a great hurry, and in the coffin; so that the description of the extent of the aneurismal tumor is not so perfect as I could have wished. The chief points of interest, however, are, first, that the urinary symptoms and apparent tumor of the right kidney were caused by pressure upon this organ from behind, while the proper tunic of the left kidney was quite detached from the substance of the gland. How was it that the potass and hyoscyamus relieved these symptoms so much?—And secondly, aneurism being suspected, why bruit and thrill should not have been easily detected in this case?

Dr. Nevins thought the absence of bruit was accounted for by the largeness of the aperture by which the aneurismal sac communicated with the aorta. It is only when a current of fluid is suddenly obstructed, —as by passing into a contracted opening, —that bruit is heard: hence it was absent in this case, as the opening was even larger than the calibre of the aorta.

Dr. Nottingham, alluding to the difficulty of diagnosis in some of these cases, mentioned having seen a patient with a caustic in his back for supposed disease of the vertebræ. After death it was found that an aneurism had eroded the bodies of two vertebræ, and had at last opened the vertebral canal, the patient dying at length from a rupture of the aneurism.

Mr. Harris had found a bruit in an abdominal tumor in a man who had been at his work until a few weeks before death. The tumor had nearly obliterated the right renal artery, and the kidney on that side was wasted, whilst that on the other side was enlarged to nearly five times its natural size.

HARVEIAN SOCIETY.

January 16, 1851.

The Characteristic Peculiarities, Pathology, and Treatment of Rheumatism, more particularly as it is found prevailing within the Tropics.

Dr. James Bird read a paper on the subject of rheumatism, in which he entered on a consideration of several points connected with the rheumatic diathesis, its paroxysmal progress, and local manifestation in particular organs; confining his observations, 1st, to leading varieties of tropical rheumatism, and the points in which articular rheumatic inflammation differs from simple suppurative inflammation; 2dly, origin of the rheumatic diathesis, nature of the paroxysmal fever accompanying articular rheumatism, and causes which produce them; 3dly, the general principles of treatment. Dr. Bird said that tropical rheumatism presented two principal forms—the stheno-phlogistic, or acute; and the astheno-cachexial, or chronic. The former, in its attack of particular tissues, shows a preference for the compound membranes of a mucous and serous kind; the latter affects the muscular and nervous tissues, and has much of a neuralgic character, accompanied by vitiated nutrition, and wasting of the parts affected. The very acute variety, associated, as in Europe, with pericarditis or endo-carditis, is a form of the complaint seldom presented to observation in India; though cases in which the ordinary symptoms of heat, pain, redness, and swelling of the joints, accompanied by fever, occur both among natives and Europeans. Such attacks usually happen among those inhabiting the colder, drier, and more elevated table-lands of that country. The astheno-cachectic varieties, associated with different forms of periostitis, having all the character of mercurial syphilitic cachexia, are peculiarly the produce of malarious districts. Several interesting cases of these different forms of rheumatism were given in illustration and proof that astheno-cachectic rheumatism, associated with arthritic periostitis, is a state of constitutional *cachemia*, more frequently developed among the natives of India than among Europeans after mercurial treatment. The proclivity of native constitutions to this form of disease arose, Dr. Bird thought, from the more general use of azotized articles of diet by the natives than by Europeans; giving to the former less vital power of resistance to the destructive metamorphoses of the tissues, brought on by cold and abused courses of mercury. As cachexia advances in cases of this kind, attended by complication of rheumatic symptoms, the skin becomes harsh and dry, and is covered by white scales or papular eruptions having all the character of obstinate psora. The intimate sympathy existing between the skin and epithelial covering of the intestinal mucous surfaces, afforded an explanation of the occasional association of cutaneous eruptions with derangements of the primary assimilation and intestinal mucous surfaces, as observable in the different forms of arthritic complaints. Dr. Bird next showed the intimate relation between milder degrees of the scorbutic diathesis, and forms of astheno-cachexial rheumatism; pointing out that the great and accurate observer, Sydenham, had long since described a species of rheumatism resembling scurvy in its capital symptoms, and requiring nearly the same method of cure, to which he appropriated the name of scorbutic rheumatism. Several cases of this kind were given in illustration, wherein lemon-juice, with an allowance of potatoes and fresh meat diet, was found to be of much service in aiding the other means of cure.

The graduated forms of rheumatism above described derive more of their difference from constitutional causes of distinction, and the less or greater aberration of the blood from its normal state; and though the distinctions of the disease, according to its seat in various parts, were thought to afford less important grounds for opposite therapeutical principles and modes of treatment than the differences described from constitutional causes,—still the varieties, founded on locality were deemed of importance, as guides to practical results. The best description of such varieties, in Dr. Bird's opinion, is that adopted by M. Chomel,—1st, articular rheumatism, or rheumatism of the joints; 2dly, muscular rheumatism, or rheumatism of the voluntary muscles; and 3dly, visceral rheumatism, or rheumatism of certain fibrous tissues situated within the splanchnic cavities.

The generality of cases belonging to the first form, as met with in the tropics, oftener present symptoms of the mild chronic variety than of the intense articular rheumatism of European climates; and though attacks are generally ushered in by febrile symptoms, these symptoms are of less severity than in colder climates, and the disease is less mobile in character. Muscular rheumatism, too, though observed in every part of the body, and usually more amenable to treatment than cases of the articular form, is more frequently met with in the loins and muscles of the limbs than in any other part of the sarcous tissues. This is peculiarly a disease of malarious districts, being very prevalent among the men of native regiments when located in such.

Dr. Bird then proceeded to inquire whether the phenomena of rheumatism were identical with those of inflammation and the phlegmasiæ?

Though rheumatism appears with all the phenomena of the latter, its local inflammations still possess a specific character, more symptomatic than idiopathic in nature, and manifesting in progress that the symptoms proceed from a particular constitutional taint, which gives to them a character distinct from simple inflammation. Space does not admit of our entering into the differential diagnosis given of these two separate forms of inflammation. Rheumatism generally presents quite as much of the character of the *neuroses* as of the *phlegmasiæ;* and though evidence be not wanting to prove that acute articular rheumatism sometimes terminates in suppuration and purulent effusion into the joints affected, still rheumatic inflammation differs from simple inflammation, inasmuch as it proceeds from a specific cause, and is associated with greater abnormal sensibility of the nerves.

Regarding the origin of the rheumatic diathesis, rheumatism was considered as the result of that pre-existing lesion of the assimilating and excretory organs of the body which, on the application of cold, errors of diet, intoxication, malaria, and like exciting causes, gives rise to that abnormal change of the blood which constitutes the rheumatic diathesis. Dr. Bird did not deny that occasionally cold and the other causes might produce rheumatism in constitutions little or not at all disposed to the disease, though the reverse was usually the case,—but *in all*, the sudden or continued influence of damp, cold, malarious air, by producing a powerful impression on the skin and nervous system, might be set down as the first link in the chain of changes connected with the generation of *materies morbi* in the blood. The equilibrium of healthy nutrition was disturbed, the tissues ceased to appropriate true nutritive materials, the assimilating functions of the stomach and collatitious viscera were deranged, and the eliminating excretory action of the liver, skin, and kidneys, was impaired or suspended, so as to admit of effete and imperfectly oxidized materials reverting into the circulating fluid. Rheumatic paroxysmal fever, which is of an irritative kind, was considered as a manifestation in different tissues of the rheumatic diathesis so generated.

The general principles of treatment were then noticed, and the indications thus summed up:—1st. To subdue constitutional irritation by narcotics and refrigerants; 2d. To eliminate from the system the retained cholaic elements and other excrementitious matter of the blood, which render the urine acid and occasion its lithic deposits; 3d. To restore the condition of normal nutrition by diet, iron, cod-liver oil, and tonics, when the rheumatic symptoms are associated with cachexia; 4th. To subdue local symptoms of swelling and pain by leeching, cupping, and blisters, followed by anodyne applications or local anæsthetics.

In order to fulfil the first indication, nitrate of potash, which diminishes the plasticity of the blood, combined with nitrous ether and other diuretics, will be found one of the most efficacious of remedies. Of the medicines best adapted to carry out the second indication of treatment, calomel, with Dover's powder at bed-time, followed by a solution of purgative salts, with an alkali and colchicum, will be found among the most useful. Citrate of iron, with cod-liver oil and an animal or milk diet, will secure the fulfilment of the third indication; and attention to carrying out the fourth and last will greatly secure the efficacy of constitutional means, and procure ease and comfort to patients afflicted by local symptoms.

ACADEMY OF SCIENCES, PARIS.

Jan. 6, 1851.

Obliteration of the Spermatic Cord.

M. GOSSELIN addressed a note in which he related a case of obliteration of the efferent ducts by the development of a cyst between the epididymis and the testicle. This cyst was found in a subject between forty and fifty years of age; it was of the size of a small orange. M. Gosselin had ascertained, by injection, that complete obstruction of the efferent tubes existed between the epididymis and the body of the testicle.

From this case he deduced the rule to puncture or inject these cysts at an early period of their growth.

The Mechanism of Labour.

Dr. **Spitzer**, of Vienna, transmitted a work, the chief point of which was to show that the expulsion of the fœtus was owing to an unloading of the congested vessels of the uterus, observing at the same time that ergot acts by causing contraction of the vessels of the uterus.

On the Mortification of Cysts.

M. **Faure'** transmitted an instrument designed to introduce certain irritants into encysted tumors in order to produce suppuration or gangrene. The agent which M. Fauré has found best adapted to this purpose is croton oil.

ACADEMY OF MEDICINE, PARIS.

Jan. 7, 1851.

Section of the Tendo-Achillis.

M. **Le Sauvage**, of Caen, transmitted a notice of a case of division of the tendo-achillis to remedy the effects of a fracture of the astragalus. The patient, in a state of intoxication, fell and injured his foot. It was found that the foot was turned inwards and pointed downwards by forcible tension of the tendo-achillis: the leg presented the appearance of a dislocation forwards on the foot: the parts were much swollen. After the inflammation had subsided, the foot could be returned to its normal position, but was again quickly displaced on being left to itself. After division of the tendo-achillis the crepitation of the fractured astragalus was readily felt. The case ended favourably.

M. Le Sauvage took occasion to notice that the division of the tendo-achillis in the treatment of fractures, which had been stated to be a novel proceeding by some English writers, had been practised many years ago by Berard at La Pitié.

Extraction of Foreign Bodies from the Bladder.

M. **Segalas** reported on an instrument which had been contrived by Dr. Courty, of Montpellier, for the extraction of a steel pin which had been five months in the bladder of a soldier. The pin had been broken by this instrument, and the fragments removed, all but one piece, for the removal of which the operation of lithotrity was had recourse to. M. Segalas spoke in terms of commendation of M. Courty's instrument.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Hernia—Operations without opening the Sac.

The subject of hernia is a most important one to the practical surgeon; and there is no class of cases which requires so much study and investigation. The affection is one which is so common, and so likely to be brought under his notice at any period, in its most difficult and dangerous aspects, that he is bound to make himself acquainted with its nature and treatment, and with the various circumstances which so frequently obtain, to modify both. It at first-sight appears somewhat surprising that there should be so much difficulty connected with an apparently simple subject, and that there should have arisen so much controversy upon the most effectual modes of combating the dangers which are induced when a patient is labouring under a strangulated hernia: for upon no one subject, perhaps, has so much been written as upon this. The writings of Cooper, Pott, and Lawrence, with many others, bear testimony to the laborious investigation which these eminent men have been engaged in to ascertain the precise nature of the affection, and to simplify the treatment of it both by operation and other means. This surprise, however, ceases when we come to see the disease at all on a large scale; for then it is we find that there are no two cases exactly alike; and that, in one case after another, circumstances obtain or arise which the surgeon has not noticed before, or has altogether forgotten; and he accordingly finds that he is compelled to modify his mode of operation and his subsequent plan of treatment, according as the singularity or gravity of these circumstances is met with. Thus it is that he who wishes to make himself well acquainted with the pathology of hernia, and with all the circumstances which are constantly interfering to modify its treatment, should not miss a single opportunity which may present itself of observing every case which may fall in his way. It may be stated as a great probability that, with every fresh case, something new will be learned. Hence we consider a faithful and accurate report of all individual cases of hernia to be most especially useful. More of course will be learned by the actual ocular observation of such cases; nevertheless, an attentive observer will add to his store of knowledge by reading the records of such when he cannot see them for himself.

The point which has been of late, and is now mostly under discussion, is as to the propriety and expediency of performing the operation for strangulated hernia without laying open the sac: other matters connected with the treatment of the affection—such as operating at an early period after strangulation, not using too prolonged taxis, and refraining from the employment of powerful aperients too early after the stricture upon the gut has been relieved—have been satisfactorily settled in the minds of all judicious surgeons; but the one point under consideration is that just mentioned, and it is likely to agitate the minds of practitioners for some time yet at all events, until a larger mass of well-recorded cases of hernia treated by the two separate methods of operating with and without opening the peritoneal cavity shall be brought home to the profession. It must be confessed by all those who have paid any particular attention to this very important subject, that the data are not yet sufficient to justify the surgeon in coming to anything like a correct conclusion as to which is the safest and best mode of operating generally; nevertheless, the researches of Key, Luke, Gay, and Hancock, have contributed much to enlighten the profession on this matter, and the minds of surgeons are thus imbued with the necessity of considering every case of hernia with extreme care before they determine upon the manner in which such and such a case should be treated. The feeling is gaining ground that the operation without opening the sac is applicable to very many cases of strangulated hernia where a few years ago the peritoneum would have been opened without the least consideration, and supposedly as a matter of necessity; that also the danger of the proceeding is much lessened if so delicate and easily inflamed a structure as the peritoneum is not meddled with. Experience has already amply shown the truth of this; but, on the other hand, it cannot be denied that there are many good surgeons who look upon this mode of operating not only with great suspicion, but who consider it to be both unsatisfactory and more dangerous than when the sac is opened, its contents brought into view, and the condition of the parts well ascertained before they are returned into the abdomen. Those who are advocates of the former method urge as arguments in its favour the great danger of peritonitis where the membrane is cut into and the intestine itself is rudely handled—in fact, the circumstance that in almost every case which is fatal after the ordinary operation, a greater or less amount of inflammation of the peritoneum and its consequences is found: and hence the immunity which obtains when a simple incision is made through the overlying textures. Those who oppose this plan urge—and justly too—that it is not applicable to a great number of cases, and that there must always be an extreme difficulty in selecting those to which it really is applicable: moreover, that the peritoneum is not so liable to be inflamed by a simple incision into it as is imagined by some, and that it is impossible to tell at the time of operation whether or not the stricture be fairly relieved, and whether the intestine itself be in a fit state or not to be returned into the belly. Such, then, is the position which this question at present assumes, and is likely to maintain, until the experience of a large number of cases has been fully brought before the profession. It therefore, we conceive, becomes the duty of every one who has the opportunity of bringing forward facts which may throw light upon this subject, to do so; and we shall make it a point of recording every case of hernia in the reports which it is our duty from time to time to make from among those which are treated in this hospital.

Before proceeding to relate two instances of strangulated hernia where the operation has been successfully performed without opening the sac, we will allude to the report of a case which we inserted from this hospital a few weeks ago. In this instance it will be remembered that the patient was an old man, in whom strangulation of the intestine had existed for less than 24 hours, and everything appeared to be favourable for the operation without opening the sac; and yet, on post-mortem examination, a considerable portion of intestine was found to be in a condition quite unfit to be returned, although the stricture had been effectually relieved by cutting it outside the peritoneum. We at that time made the remark that this very case illustrated the difficulty which must necessarily exist in arriving at a correct conclusion as to the state of the parts inside the hernial sac, and was *per se* an instance to show the danger and inexpediency of returning a portion of intestine which has been constricted even for a short period without first ascertaining its condition. We have now, on the contrary, to relate two instances where the same kind of operation has admirably succeeded, and which thereby tell as arguments in favour of operating without opening the sac, if possible.

Mary Ross, aged 48, married, was admitted into King's College Hospital with a strangulated femoral hernia, on Tuesday, November 26th. She stated that on Monday evening, at 8 P.M., whilst sitting before the fire, she was suddenly seized with a severe pain in the lower part of her belly. She at once sent for a medical man, who gave her an emetic which acted violently, and increased the pain under which she was suffering. About 11 o'clock of the morning she was admitted she first herself noticed a tumor in the right groin, which was very tender to the touch. She had never observed a swelling there before. At 2 P.M. she was sent into the hospital, *no attempt whatever having been made to return the hernia before admission.* Mr. Fergusson pronounced the tumor to be a femoral hernia: the patient was at once placed under the influence of chloroform, and a careful attempt was made to return the swelling by the taxis; but Mr. Fergusson, finding that it did not yield in any way, determined to operate without further delay. Making a very short incision over the hernial tumor, he dissected through the separate tissues, and carried the knife inwards, and divided Gimbernat's ligament, outside the sac: the contents were at once returned into the belly; little blood was lost; the edges of the wound were united by sutures; a compress and bandage were applied.

27th.—This patient suffers no pain; has slept well the preceding nights, but the bowels have not been opened since the operation.

28th.—Bowels have been opened by means of an enema this morning. The patient feels comfortable.

Dec. 3d.—Stitches have been taken out of the wound, and this is dressed with adhesive straps.

Discharged on the 7th.

Lydia Boothby, æt. forty-six, married, and mother of eleven children, has had a crural rupture on the right side for the last six years, and has worn a truss for the last twelve months. On the night of December 23d, at ten, she was seized with vomiting and a dragging pain in the stomach, whereupon she attempted to return the tumor with the help of her husband, but found she was unable to do so. These efforts at reduction were continued all night; and as they were unsuccessful, she applied and was admitted into the hospital. Next day, Dec. 24, she had vomited fæcal matter before she came in. She had no vomiting when admitted, but complained of a severe dragging pain at the stomach, and shooting pain over the abdomen. There was a tumor, the size of an egg, in the left groin, turning up over Poupart's ligament: it was hard, and felt nodulated at the upper part, but was smooth and fluctuated at the lower. Mr. Fergusson saw the patient, and, finding that he was unable to return the hernia, proceeded to the operation. He first made a very limited incision just over the neck of the tumor, and divided the separate tissues over the sac; he then passed the knife upwards and inwards, and cut the Gimbernat's ligament, and was then enabled to pass the contents of the sac into the belly without opening the sac. It was necessary, however, after dividing the ligament, to cut some fibres between that tissue and the sac: the rupture after this was returned with the greatest facility.

On the same evening this patient found herself much relieved; there was no pain, no tenderness nor sickness.

On the next day her bowels were freely opened, and the only thing she complained of was a little fever, which required some saline medicine. The wound soon put on a healthy appearance, and she rapidly recovered.

Both these cases are interesting, inasmuch as the same operation was put in force in either, and that, too, with the greatest success, although the two cases were not by any means alike. The comparatively simple and harmless operation without opening the sac was performed, and both patients recovered without a single bad symptom. Both cases illustrate the fact that there are certain instances of strangulated hernia to which this peculiar operation is decidedly applicable; and they teach us what are the circumstances which will lead the surgeon to judge that he is dealing with a fit case for such a mode of procedure. In the first patient the conditions were just those which are considered to be the most favourable for attempting the operation without cutting into the peritoneum. The woman had never suffered from hernia: in fact, it was a quite recent descent of bowel; the parts had not been suffered to remain long down, and, moreover, it was a femoral hernia, which is probably that kind of hernia in which the operation of not opening the sac is most likely to succeed frequently. The anticipations of the surgeon that in such a case the operation might be completed without difficulty were verified. In the second case the same conditions did not obtain; for here the hernia was not recent, but was of six years' standing, and for twelve months the patient had worn a truss; and it might with propriety be expected that some changes would have been brought about in the sac which would oppose a successful attempt at reducing the hernia without an exposure of the cavity. Nevertheless, there was an equal amount of facility in either case in completing the operation. There was also this difference in the two cases—in the one it has been seen that no attempt whatever had been made to return the hernia, either by the patient herself, or by a medical practitioner; in the second instance, both forcible and prolonged attempts were made by the patient and her husband to push the tumor back. The circumstances in each were therefore different, and certainly much more unfavourable in the latter case. Still this rude handling of the parts had not appeared to have produced any mischief. A great point in the success of both cases consisted, doubtlessly, in early recourse to operation,—a measure which should always be adopted whenever it is considered that the employment of the knife is necessary. It must not, however, be considered that all in cases like these just mentioned, and more especially the first, the operation of not opening the sac will invariably succeed or can be accomplished; nor is it to be supposed that the intestine must necessarily be in a fit condition to be returned because strangulation has existed only for a few hours, and because those symptoms which not unfrequently indicate a gangrenous condition of the intestine are not at all perceptible. The case of the man first alluded to shows the impossibility of deciding this question; for, although in this instance strangulation had not existed for twenty-four hours, death rapidly ensued after operation, and the intestine was found in a very disorganized condition; and it is often quite impossible to judge, from the absence of symptoms, as to the comparatively healthy state of the contents of a hernial sac. A few days ago we were present at an operation in a remarkable case of strangulated femoral hernia in a very aged person, where there were not the slightest symptoms to indicate that the intestine was in anything but a healthy condition. The operation without opening the sac was performed. The stricture was fully relieved, but the patient died; and on post-mortem examination a considerable portion of intestine was found to be in a semi-gangrenous condition. This uncertainty as to the state of the intestine must then be looked upon as one of the great impediments to, and difficulties in connection with, the adoption of this particular plan of operating. Still it must be hoped that a careful observance of signs and symptoms, and the experience of a greater number of cases than have hitherto been brought forward, may be able to enlighten the surgeon on this serious point, and enable him to avoid the dangers which must necessarily arise if he adopts too hastily or too generally either plan of operating.

Mr. Fergusson has lately adopted a mode of operating by a very small external incision through the skin, just over the neck of the tumor. It was formerly his custom to recommend and practise much freer incisions, of various shapes, over the surface of the tumor; but he now proceeds in a manner somewhat like that recommended by Mr. Gay in his very beautiful work on Femoral Hernia: by means of this incision he is enabled to get easily at the Gimbernat's ligament, which it is generally necessary to divide. Should, however, a larger incision be found necessary, it is very easy to extend it over the tumor. Mr. Gay practises his incision, which is even more limited than that of Mr. Fergusson, by the side of the neck of the hernia, and does not interfere with the tumor at all if he can possibly effect his object without it. Mr. Fergusson, in both the cases narrated, made a small cut just over the neck of the hernia, but interfered little with the main portion of it. The advantage is that so small a wound very soon heals up.

HÔTEL DIEU.

Case of Comminuted Fracture of the Arm. Under the care of M. Jobert de Lamballe.

The following case presents several important points with reference to the treatment of comminuted fractures:—

A man, thirty-one years of age, strong, well-built, and of a healthy constitution, was admitted 13th July, 1850. On the 7th of February preceding, while at work on the embankment of a railway, he fell on the rails between two waggons: the consequences were a compound comminuted fracture of the humerus, with considerable loss of blood, and infiltration thereof into the subcutaneous cellular tissue,—causing tumefaction from the axilla to the groin over the thorax and abdomen. The arm had been in the first instance treated by cataplasms and compresses moistened with resolvent liquids. When the swelling had subsided, a bandage was (according to the patient) firmly applied; inflammation followed, and two abscesses formed, which were opened: from the openings several fragments of bone were discharged. The abscesses healed in time, the limb having been placed in a position to favour the escape of the pus. After the abscesses had healed, it was discovered that the fracture was not consolidated. The medical attendant placed the arm in an immoveable apparatus, but the state of the limb continued unaltered.

When presented at the Hôtel Dieu, there existed a free movement at the junction of the upper with the two lower thirds of the limb. The divided ends of the bone could be felt at a distance from each other, their only bond of union being a fibro-ligamentous tissue: the arm was atrophied: the joints of the wrist and hand were imperfectly anchylosed: the articulations at the shoulder and elbow permitted only of very slight motion: the brachial artery was felt more posteriorly than usual. M. Jobert attempted to cure the false joint by a seton passed through the ligamentous tissue; but this failed to produce any benefit: M. Jobert, therefore, determined to amputate. The wound had healed perfectly.

In the practical remarks to which this case gave rise, M. Jobert dwelt first upon those features of the accident which might explain the non-solidification of the fracture, and on the therapeutic means which interfere with that process. The non-union in the present instance was attributable to the extravasation of blood between the ends of the bone, and to the suppurative inflammation caused by the injudicious use of bandaging. Active depletion, with fomentations and complete rest of the limb, would have reduced the inflammation, and prevented the suppuration which interfered with re-union of the bones.

The existence of the fibro-ligamentous tissue was sufficient to interfere with the success of the seton. M. Jobert observed that, in cases of false joint, the seton should not remain longer than from ten to fifteen days; as, if not of benefit by that time, it becomes a source of irritation, acting in every respect as a foreign body.

M. Jobert had in this case amputated at the shoulder-joint in preference to below the insertion of the deltoid, from a consideration of the emaciated and altered condition of the soft parts of the limb and because this operation is, according to M. Jobert's experience, less frequently followed by phlegmonous inflammation than in amputation below the insertion of the deltoid. In the instance under notice, sufficient soft structures were found on the posterior aspect of the limb to form the larger flap.

Case of Partial Rhinoplasty, by the Indian Method. Under the care of M. JOBERT.

In order to judge of the effects of rhinoplasty, as applied to deformities of the face, it is not sufficient to consider only the immediate consequences of the operation. These are usually satisfactory; for the difficulty does not consist so much in repairing the loss of substance, as in preserving the integrity and sufficiency of the means which have served for the reparation. Complications may occur which may compromise or retard the complete success of the operation, and it is often to prevent or remedy these accidents that the surgeon is occasionally compelled to have recourse to a second operation in order to complete the first.

The following is a case of this kind:—A man, aged fifty years, of a strong constitution, and occupied in agricultural labour, was affected with ulceration of a cancerous nature, which had destroyed the right nostril and attacked the cheek and lower lip. The disease had been removed frequently, but it had always reappeared. M. Jobert resolved to perform an autoplastic operation, which he has found successful in other cases. After having removed the diseased portions, M. Jobert cut a triangular flap from below the zygomatic arch, the pedicle of which corresponded with the canine fossa. After having dissected back this flap, its pedicle was twisted, and the solution of continuity completely covered.

Five sutures were employed, and so placed that the nostril was fairly restored. The case went on well at first: erysipelas, however, occurred to prevent the union of the upper part of the flap. Suppuration and sloughing of a portion took place; so that, when the cicatrization was complete, a considerable hiatus was perceived between the flap and the dorsum of the nose.

Here it was shown that erysipelas is one of the most formidable accidents that can occur after rhinoplastic operations,—not only preventing success in the first instance, but often also cutting off the means of providing sufficient integument for a second operation.

In the present instance two parts presented from which the accident might be repaired. On the one hand, a flap might be derived from the forehead: but M. Jobert observed that this proceeding was open to the objection that flaps thence derived are more frequently followed by erysipelas, than when taken from other parts. The second source was the flap itself. In order to ascertain whether this offered the means of completing the operation, the surgeon had recourse to the following ingenious proceeding:—Bearing in mind that the flap had been left attached by its pedicle, and at one point of its circumference, to the lobule of the nose, judging, also, that the circulation in the part was sufficiently established to prevent fear of extinguishing its vitality by dividing the pedicle,—M. Jobert divided the pedicle in such a manner that it could be removed and applied to the opening, which it filled up, and was stitched to its pared edges by several sutures.

This operation of transplanting the pedicle, after its detachment from the cheek, may be expected to have exposed it to gangrene, and consequent partial or total destruction. Such, however, was not the result, but the success of this second operation was complete.

M. Jobert observed that it was not always the case that the capillary circulation could be maintained or restored in such operations.

Medical Trials and Inquests.

ALLEGED DEATH OF A LUNATIC FROM VIOLENCE IN AN ASYLUM—COMPETENCY OF THE INSANE TO GIVE EVIDENCE.

A MAN named Samuel Hill, one of the keepers in the asylum of Dr. Armstrong, at Peckham, was charged at Lambeth Police Court, on Saturday last, with having caused the death of Moses James Barnes, a pauper inmate of that institution, by inflicting on him very serious injuries.

Mr. Bodkin, the barrister, attended on behalf of the Commissioners in Lunacy to prosecute, and Mr. Herring, a solicitor, appeared on behalf of the accused. There were also present during the investigation Mr. B. W. Proctor, one of the Commissioners in Lunacy; Mr. Under-sheriff Law, who is solicitor to the Lunacy Commission; and Mr. Bonnett, the assistant-clerk to the Clerkenwell board of guardians, to which union the deceased belonged.

At the inquest held on the body of the deceased, Mr. Carter, the coroner, not only refused to hear from the witnesses examined all observations and statements made by the patients in the infirmary in reference to the unfortunate occurrence, but (contrary to the wish of the jury) to have any of the patients called as witnesses. It was clearly established by the investigation before the coroner, however, that on Monday, the 23d of December, the unfortunate deceased had his left arm and four of his ribs on his right side fractured; and though it was the duty of Hill, the keeper in the infirmary, to report the slightest casualty to the medical attendant of the establishment, he did not mention a word about the deceased's injuries until the 27th, four days after they had been inflicted, and he then denied in the most positive manner all knowledge as to how the poor man came by them. *By the coroner's dictum, however, no keeper could be held responsible for any act, no matter of how brutal a nature, provided that act had been inflicted on a lunatic, and none but lunatics were present when it was perpetrated;* and such was his (the coroner's) view of the law of evidence as laid down in his summing-up, that the jury, while they could not have the slightest moral doubt that Hill had caused the death of the deceased, returned a verdict of "Manslaughter against some person or persons to them unknown."

When the case was called on, Mr. Bodkin, addressing Mr. Norton, said he had the honour to appear on behalf of the Commissioners in Lunacy, one of whom, with their secretary and solicitor, was present, to prosecute in the present case, which they conceived to be one of considerable public importance; and he was instructed by those gentlemen to state that it was their intention in all such cases to institute the most rigid investigation. The coroner before whom the case had been investigated had, he (Mr. Bodkin) understood, refused, from a conscientious but mistaken view of the law, to receive lunatics as witnesses, and therefore rejected the evidence against the accused, of those patients who were in the infirmary at the time, and who witnessed the prisoner's violence towards the deceased. It would be his (Mr. Bodkin's) duty now to place in the witness-box one of those poor men, and he had no doubt whatever, after hearing the statement of this poor man, the magistrate would feel it to be his duty to send the case to another and higher court. The learned counsel here desired that Richard Donnelly be called and sworn; when a red-faced funny little Irishman mounted the witness-box; and never, perhaps, did witness give evidence with greater clearness or care than he did.

Mr. Herring, whose objection to his being received as a witness had been overruled by the magistrate, examined Donnelly as to his notions of the obligation of an oath, and his answers were as lucid and satisfactory as could be given by the Bishop of London or Cardinal Wiseman. The oath was administered to him in the usual way, and he deposed as follows:—I am an Irishman, and have been in Dr. Armstrong's asylum for about four years and four months. I knew the deceased man Barnes. He was in the infirmary the latter part of the time, and I slept next to him. I recollect Christmas-day; it was on the Wednesday; and on the Monday evening before, between 6 and 7 o'clock, the deceased, who was a sulky man, and easily irritated, was desired to go to bed, but he would not till Hill (the prisoner) came. The prisoner behaved a little more harshly than usual, and took hold of Barnes with both his hands by the upper part of the arms and threw him down suddenly on the ground. I don't remember whether the prisoner fell upon him or not, but Barnes came down with his left shoulder undermost. Hill lifted him up, and proceeded to strip him. The deceased said he should not let Hill or myself put him to bed if he had not been hurt; and I then said, "You have got your Christmas-box, poor man!" This I said to Barnes, in allusion to the fall he had received from Hill. Hill put the deceased to bed the night after without his making resistance. I believe there was a slight struggle between the prisoner and deceased before the fall. The fall was a hard one; and a few minutes after the prisoner was gone Barnes called me to look at his shoulder, and he complained of being hurt. I felt his collar-bone, and found that that was not broken; and I tried to make as light of it as I could, not thinking at the time that he had received any severe injury. There was nothing the matter with the deceased before the fall I have named. The morning after that fall the prisoner dressed him. The deceased complained to Hill that his arm was very sore; and I think I then said the collar-bone was not hurt. I saw Muncaster, one of the other keepers, coming into the infirmary one morning, and deceased complained to him about his arm; and the prisoner then lifted up the arm and it slid down, as if powerless. Hill said there was nothing the matter with it; and I then lifted it up and called the prisoner's attention to the hand, which I observed was swollen. I do not recollect Hill striking the deceased, but he dressed him every morning from the Monday till the Friday, when Dr. Hill came.

This witness was cross-examined at considerable length, and in the course of it the prisoner's solicitor elicited the fact that he (witness) and two other pauper lunatics were in the habit of occasionally attending on the other inmates of the infirmary, and that on the evening of the rencontre with the prisoner the deceased had irritated Attwood, one of the patients, but no injury was done to the former. Witness and Attwood were in the habit of dressing the deceased and giving him his food; but he used to resist them, and then Hill (the prisoner) was obliged to be sent for. Was sure that Hill dressed the deceased on Christmas morning, for on that day Barnes complained of having pains in his breast. Witness had been examined several times since the death of the deceased, but was not told by any person what he should say.

In his re-examination the witness said the deceased had not complained of injuries of any kind until after the fall given to him by the prisoner, and that the prisoner dressed him every morning from that time until he had been examined by the doctor on the morning of Friday, the 27th of December.

At the conclusion of this witness's evidence, Mr. Norton, the magistrate, remarked that he had never heard evidence given, to his mind, and he was sure also to the minds of all who heard it, with greater truth.

Muncaster, a keeper in Dr. Armstrong's asylum, was here recalled, and in reply to the questions put to him said, the delusion under which the deceased laboured was, that sometimes he had one butt of beer, and at other times two butts of beer, in his inside.

Mr. Bodkin here applied to the magistrate to expunge from the deposition of Mr Hill, the surgeon, some evidence given by that gentleman on a preceding day, which, he contended, was not legal, and which should not be allowed on the face of the deposition. Mr. Hill, in his examination, was asked whether the man Donnelly, though sufficiently rational to give a perfectly true account of all that happened between the prisoner and the deceased, could be held amenable for any act committed by him; and the answer was that he could not be held accountable; and it so stood on the deposition. Now, he (Mr. Bodkin) held that the question, whether the person were amenable in law for his acts, was one which a jury alone could decide, and therefore the opinion of an individual, whoever he might be, could not be received on the point.

The magistrate admitted the objection, and that part of the evidence of Mr. Hill was expunged; and the prisoner was fully committed to take his trial at the ensuing session at the Old Bailey for manslaughter.

Correspondence.

HOSPITAL STATISTICS. THE WESTMINSTER HOSPITAL DURING THE LAST SEVENTEEN YEARS.

Sir,—I am indebted to the zeal of our Secretary, Mr. Wilson, for the accompanying abstract of the number of in- and out-patients, the calculated expense per head, the rate of mortality, &c. &c., in the Westminster Hospital for the last seventeen years. I am induced to think, from your judicious remarks on hospital statistics, that its publication may still further excite attention to this important subject. Similar returns made by all the hospitals would afford very interesting information, and would be a good test of economical and judicious management. In a medical point of view, however, other facts than these are required. It would be very desirable if the medical officers of all the Metropolitan hospitals could be persuaded to make *quarterly returns* of all the cases received into their wards,—specifying the age, sex, temperament, occupation, and disease; the latter, not merely by name, but distinguishing primary from secondary diseases or complications. If such a plan were carried out efficiently, I conceive that the facts recorded would, after a time, materially assist the objects of the Epidemiological Society. But to be done well, the returns must be filled up by the medical officers themselves; for, if done by deputy or by subordinates, the diagnostic distinctions, on which the value of the return should rest, would oftentimes be carelessly, imperfectly, or perhaps inaccurately, recorded. Such returns should exhibit for each quarter of the year every case of disease admitted into the hospitals; and hereafter a mass of most valuable information would be collected, exhibiting the "epidemic constitution" or otherwise of particular years, the morbid precedents or sequents of epidemic periods, the ratio of mortality or curability of particular forms of disease: special plans of treatment, if honestly recorded, would add to the value. We might hope thus to obtain a mass of facts from which very valuable deductions might subsequently be made. It is the scale on which such a plan is undertaken that would constitute its merit and importance: any scheme less comprehensive would be futile. After the stimulus you have given to this subject, we must expect to find individuals worrying themselves into a kind of statistical erthcism, zealously desirous to give publicity to a small return of "cooked" cases, objectless and worthless, as regards medical statistics—collected and made up to exhibit some crotchet of the compiler, or to parade his industry. From such, nothing of value could be obtained—nothing but contradiction, doubt, and derision. Although I differ from Dr. Webster as to the mode of calculating the rate of mortality in hospitals, yet his efforts to collect statistical information are most praiseworthy; and I hope his example may induce hospital physicians and surgeons to co-operate in furnishing every required information to promote so important a subject as genuine medical statistics.

I have the honour to be, sir,
Your obedient servant,
W. R. Basham.

17, Chester Street, Grosvenor Place,
January 15, 1851.

Abstract of the Number of In and Out-Patients, with the Expense per Bed, and Rate of Mortality, in the Westminster Hospital, for Seventeen Years, ending* 1848. *Calculated from the Hospital Books by* Mr. J. F. Wilson, *Secretary.

Year.	In-Patients.	Out-Patients.	Expense per Bed.			Expense per In-Patient on the Total Expenditure.			Expense per Patient on Total Number of In and Out-Patients.		Number of Beds in the Hospital.	Mortality per Cent. on In-Patients admitted.	Average Number of Days each In-Patient remained in the Hospital.
			£.	s.	d.	£.	s.	d.	s.	d.			
1833	771	2962	40	10	9	4	14	9	19	6½	90	Not calculated.	42½
1834	796	3885	31	0	0	3	17	10	13	2 13/16	100		40
1835	988	4979	35	1	3	3	16	8	12	8 5/16	108		37
1836	1004	5850	38	18	1	4	3	8	12	3⅛	108		38
1837	1067	6155	33	6	9	3	13	9	10	10½	118		39
1838	1215	6994	33	13	11	4	2	0	12	1¾	148		40
1839	1423	7993	35	4	10	3	13	3	11	0 15/16	148	7	37
1840	1235	8143	32	18	5	4	6	4	11	4 7/16	162	8·50	42
1841	1340	7220	34	16	1	4	4	1	13	2 1/16	162	8·55	42
1842	1355	7734	29	18	2	3	11	6¼	10	7 15/16	162	7·17	34½
1843	1393	7552	27	0	3	3	2	9¾	9	9 5/16	162	7·896	35
1844	1546	7965	28	0	10	2	18	9	9	6 13/16	162	7·92	31½
1845	1580	8438	28	7	8	2	18	2¼	9	2⅛	163	7·340	31
1846	1646	10095	29	12	3	2	18	3	8	2 3/16	162	6·379	28½
1847	1751	10172	31	0	7	2	17	5	8	5 3/16	162	8·084	27¾
1848	1891	13479	34	13	10	2	19	5¼	7	3¾	162	7·855	27¾
1849 *	1746†	14009	30	1	3	2	19	6¾	6	7 3/16	173	10·87‡	29¾

* The return for 1850 is not yet complete.

† Patients two months and upwards in the hospital are not readmitted as new patients: a certificate, stating that the case requires longer treatment, continues them without the name being re-entered.

‡ This per centage includes the very numerous deaths from cholera.

THE "MEDICAL TIMES" AND ITS SUPPOSED CONTRIBUTORS.

SIR,—I beg permission to call your attention to, and ask an explanation (if you can suggest it), of the following facts:—

The new series of the "Medical Times" came before the public with vast pretensions to the patronage of the medical profession. It has weekly displayed a long list of "Communications received;" and among the names of those from whom these are professed to have come, have been many of the most distinguished physicians and surgeons of the present day. I have frequently looked over the "Medical Times," and have been constantly disappointed with regard to the grand promises thus held out, as I have not met with contributions from a large proportion of the writers so announced.

Thinking that this might be owing to carelessness on my part, as soon as the index of the last volume appeared, I compared therewith the above-mentioned announcements. Taking at hazard Nos. 2, 6, and 16 of that journal, I find that in No. 2 "communications" are announced from 45 writers, of whom only 7 names are to be found in the index; in No. 6 are 17 names, only 4 of which are met with in the index; and in No. 16 there are 14, of which 3 only appear in the index. These figures do not include a large number of anonymous writers, or those who write under fictitious names. Of the genuineness of the latter there is no other guarantee than what the character of an Editor may afford, while their "communications," it must be observed, are, with some others, of so little importance or interest to the readers of the journal, that they are indiscriminately heaped together at the end of each number, where, however, they are made to serve the very useful purpose of filling up the required extent of surface of type. The latter, I should suppose, is a point of some importance to the editor and publisher of the "Medical Times," as I see that the weekly reports of the Registrar-General are transferred almost entire to its pages; while it is at the same time announced to correspondents that, owing to the "crowded state of our columns," numerous papers of interest are postponed.

Many of the "communications," I strongly suspect, have been nothing more than replies, evidently in the negative, to applications for contributions; these, of course, would not be published, while, at the same time, the authors' names are none the less useful in attracting subscribers.

Now it does seem that all this is very like sailing under false colours, and unworthy of the editor of a scientific journal. Moreover, it might have been supposed that the influence of the proprietor, Mr. Churchill, with medical writers, which has been so energetically and indefatigably exerted on behalf of the "Medical Times," would have rendered unnecessary the recourse to a manœuvre even worse than the trade trick of *touting* for customers.

I remain, sir,
Your obedient servant,
SCRUTATOR.

Jan. 16, 1851.

⁂ Our correspondent has furnished us with his name and address. He is a highly respectable general practitioner, and we have no doubt has good grounds for the complaint here made.

RELATIVE MORTALITY AT THE LONDON HOSPITAL.

SIR,—I have read, with much interest, your very valuable articles on the comparative mortality of the Hospitals of London. The statistics (by which you have so clearly proved, that among the eleven large Institutions of this character, the London Hospital stands second as to the number of in-patients, and has the smallest relative mortality;) are, it appears, beyond question, —but there is in your last article an *inference* which seems to merit careful investigation.

Having proved that in the London Hospital the mortality among the Medical cases is somewhat greater, while among the Surgical cases it is materially less than at Guy's, you *infer* that the accidents admitted at the latter are of a more severe character than those received into the former Hospital. Now, it does not appear to me, that in the case of accidents brought to a Hospital, there is any comparative test of fitness for admission. The only question is, "can the person be sent away?" and the answer is generally self-evident—viz., either that he is prostrate and cannot walk, or that serious injury might result from his having to attend, or be brought as an out-patient—and that perfect quietude in bed is essential in order to insure recovery.

Now we cannot assume that in the neighbourhood of Guy's Hospital all accidents are of a severe character: it is therefore evident, that cases of every form and degree are taken to that Hospital as to this; and that one and the same test of fitness for admission can alone apply in both instances.

That you may judge for yourself whether the cases admitted here are of too slight a character to be treated as in-patients, I have subjoined a tabular statement of that particular class of cases, in which our mortality

Cases of Contusion in the London Hospital. January, 13th, 1851.

Nature of case.	Nature of accident.	Date of admission.	Remarks.
	MALES.		
Contused leg.	Kick from a horse.	11th Dec., 1850.	Remains in bed.
,, side and back.	Fell out of a cart.	9th Jan., 1851.	Do.
,, great toe.	1½ ton weight fell on it.	26th Dec., 1850.	Do.
,, face.	Bale of cotton fell on him.	13th Dec.. 1850.	Do. (subsequent paralysis).
,, foot.	Sack of coals fell on it.	7th Jan., 1851.	Do.
,, toe.	¾ cwt. of iron fell on it.	11th Jan., 1851.	Do.
,, thighs.	Fell through a ceiling.	9th Jan., 1851.	Do.
,, thigh (with laceration),	Run over by a chaise.	9th Jan., 1851.	Do.
,, leg.	A hogshead fell on it.	28th Dec., 1850.	Do.
,, jaw and head.	Jammed between a deal plank and ship's beam.	9th Jan., 1851.	Do.
,, elbow joint.	Fell from a ladder.	11th Jan., 1851.	Do.
,, hand.	Jammed between two hogsheads of sugar.	7th Oct., 1850.	Do.
,, foot (with laceration).	By machinery.	5th Jan., 1851.	Do.
,, face and hand do.	Fell down a ship's hold.	30th Dec., 1850.	Was eleven days in bed.
,, ankle do.	Thrown from a drum-wheel.	31st Dec., 1850.	Remains in bed.
General contusions.	Thrown round shaft of a stationary engine.	2nd Jan., 1851.	Do.
Contused thighs.	Log fell on them in a ship's hold.	8th Oct., 1850.	Was two months in bed.
,, thigh.	Fell into a brewer's vat.	6th Jan., 1851.	Remains in bed.
,, ankle.	Case of tobacco fell on it.	1st Jan., 1851.	Do.
,, foot.	Trodden on by a horse.	2nd Jan., 1851.	Do.
	FEMALES.		
Contused back.	Fell down stairs.	26th Dec., 1850.	Remains in bed (subsequent paralysis).
,, side and back.	Do.	11th Jan., 1851.	Do.
,, knees.	Slipped on a piece of orange peel.	1st Jan., 1851.	Do.
,, hip.	Thrown down.	31st Dec., 1850.	Do.
,, knee (with abscess).	Fell on stairs.	31st Dec., 1850.	Do.
,, knee.	Struck it against stairs.	1st Jan., 1851.	Do.

is smallest, viz., contusions. This list is not selected, but contains every case of contusion at present in the Hospital.

Having made these few remarks tending to show that the accidents in Guy's Hospital cannot be comparatively more severe than in this, I would merely add that our greater mortality in Medical cases may with every appearance of truth be traced to the greater comparative severity of the Medical cases here admitted.

Situated, as this Hospital is, in the midst of the very poorest and most densely populated district in the metropolis, it cannot be presumed that the cases of disease applying for admission here are less complicated, or less serious, than in other districts. No presumption of this kind could ever be sustained: but it is an actual *fact*, that, owing to our immense demand for admission of accidents, none but the most severe of the Medical cases can be received; and that consequently in the year 1849[*], 210 cases, certified as proper for admission, and which would have been received, no doubt, in other Hospitals, were here necessarily treated as out-patients.

This very strict classification (combined with the fact that in the past year [for instance] 308 Medical cases have been here admitted, in the same manner as accidents, without recommendation, and for the immediate preservation of life) may be very fairly assumed as a *primâ facie* cause of the large comparative mortality among the Medical patients of the London Hospital.

Taking, therefore, for granted (and there is no doubt of the fact) that the large Hospitals of London have each an average amount of the greatest Medical and Surgical ability connected with them, are we not compelled, in seeking for the cause of the very small mortality in this Hospital, to fall back upon the general arrangements of the Institution, which, from *progressive* experience, have unquestionably in this Hospital (and the same may be the case in others) been found to aid and facilitate the treatment of disease or accident, as much as, in former times, they embarrassed the professional man, and retarded the recovery of the patient?

I have the honour to be, sir,
Your most obedient servant.
WM. J. NIXON.

London Hospital, January, 13, 1851.

Medical Intelligence.

THE CHOLERA IN JAMAICA.

INTELLIGENCE has been received up to the 31st ult. from Kingston, Jamaica. The cholera continued to rage with violence at Montego Bay and Falmouth; but at Kingston, Port Royal, and Spanish Town, it had disappeared.

The *Kingston Journal*, December 30, says:—"We are glad to state that the cholera is on the decrease in the town of Montego Bay. Most of the cases yield to medical treatment. The epidemic is gradually leaving the parish of Vere; in some districts only one death occurring daily, although diarrhœa is very prevalent. At Trelawny the disease has assumed a mild type since Christmas-day—a period of exactly six weeks since it first made its appearance in Falmouth. Another account says—'It continues its ravages in the parish. It has made its appearance in several places where it had not previously commenced its work of devastation. At Braco estate, three miles from Rio Bueno, the disease broke out on Monday morning, and by that night there were 11 deaths, and 15 under treatment, all of which, it is feared, would terminate fatally. In Duncan's and that vicinity there had been several deaths to the 23d inst.' A correspondent writing from Lucea, under date of the 26th, says things have begun to wear a most awful appearance. There have been seven fatal cases from the commencement of the disease to this day, and four under treatment."

THE DREADNOUGHT HOSPITAL SHIP.

A GENERAL quarterly court of the governors of the Seamen's Hospital Society was recently held at the offices of the Society, 74, King William Street, City; John Wilde, Esq., vice-president, presiding on the occasion. From a statement submitted to the meeting by the secretary, it appeared that from the 1st October to the 31st December last, there had been admitted as patients on board the Dreadnought Hospital ship, from her Majesty's ships, 10; from British and foreign merchant vessels, 542: which, with 119 on board on the 1st October, made up 671 seamen receiving treatment from the Society during the period mentioned, on board; while there were 350 out-patients under treatment during the same period. Of the number now on board there were—sick, 158; convalescent, 7; fit for duty, 3; and dismissed since 1st of October last, 503. The number of patients received on board since the establishment of the Society in 1821 was stated to be 63,149. As regarded the funds, it appeared that the outlay on the quarter, from 29th September to 31st December last, was £2017. 10s. 1d., including a balance of £584. 9s. 4d., which stood against the society on the audit of the previous quarter; there being still a balance against the Society of £437. 4s. 9d.

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[*] The account for 1850 is not yet made up.

⁂ It would be desirable to complete this statistical statement, and to know whether patients ever die on board the Dreadnought Hospital Ship.

VITAL STATISTICS OF THE BOROUGH OF PLYMOUTH FOR THE QUARTER WHICH ENDED ON THE 31ST DECEMBER, 1850.

THE quarter which has just expired has been distinguished by a considerable excess of mortality above the increase by births, thus giving again a downward tendency to the population. The mean mortality of the same quarter for the ten previous years appears, from the annual reports of the registrars, to have been 265·2, while it amounted during the last quarter to 428·, being an excess of no less than 162·8, or above 61 per cent., above the decennial average of the quarter. This excess is chiefly attributable to the prevalence of fevers of various descriptions, of which scarlatina, typhus gravior, typhus mitior, and synochus, have been the most fatal: rubeola and variola have been comparatively infrequent, only 1 case of death from the former having been registered in St. Andrew's district. The following table exhibits a comparative view of the quarter in the past and preceding years:—

	St. Andrew's District.						District of Charles.					
	1849.			1850.			1849.			1850.		
	Births.	Deaths.	Diff.	Births.	Deaths.	Diff.	Births.	Deaths.	Diff.	Births.	Deaths.	Diff.
Oct. . .	102	127	−25	72	74	− 2	35	57	−22	31	40	− 9
Nov. . .	79	48	×31	83	99	−16	44	26	+18	48	56	− 8
Dec. . .	89	82	+ 7	87	94	− 7	62	39	+23	62	65	− 3
Sum . .	270	257	+13	242	267	−25	141	122	+19	141	161	−20
Mean .	90	86	+ 4	80·7	89	− 8	47	41	+ 6	47	54	− 7

On examining these returns, it is impossible to avoid being struck by the close coincidence in the births for the quarter in the second, or Charles, district, while the mortality exhibits an excess of 39, or nearly 32 per cent. The following table exhibits the general results for the Borough:—

	Borough.						Movement of the Population.	
	1849.			1850.				
	Births.	Deaths.	Diff.	Births.	Deaths.	Diff.	1849.	1850.
October. .	137	184	−47	103	114	−11	38,888	39,408
November	123	74	+49	131	155	−24	38,937	39,384
December	151	121	+30	149	159	−10	38,967	39,374
Sum . . .	411	379	+32	383	428	−45	116,792	118,166
Mean . . .	137	126	+11	128	143	−15	38,931	39,389

The two subjoined tables exhibit the annual births and mortality of the borough during each of the ten years which immediately preceded the invasion of cholera, and on that account exhibit what may be regarded as the normal state of the health of the borough, undisturbed by the influence of irregular causes, which baffle ordinary calculations. From these tables we learn that, while the mortality of the quarter exceeded the decennial average by more than 61 per cent, the births for the same period outnumbered the same average by little more than 1 per cent.

A Tabular View of the Births and Deaths in the Borough of Plymouth during the ten Years ended 30th June, 1849. *Collected from the Annual Reports of the Registrars :—*

Quarters.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	Sum.	Mean.
	Births.											
Summer . . .	265	251	268	290	302	337	315	343	304	349	3,024	302·4
Autumn . . .	248	259	294	326	363	378	340	357	360	391	1,316	331·6
Winter . . .	294	287	263	324	338	340	395	360	428	449	3,478	347·8
Spring	242	275	320	287	340	340	372	361	395	455	3,387	338·7
Sum	1049	1072	1145	1227	1343	1395	1422	1421	1487	1644	13,205	1320·5
Mean	262	268	286	307	336	349	355·5	355	372	411	3,301	333·1
	Deaths.											
Summer . . .	123	203	134	343	182	257	191	279	193	298	2,203	220·3
Autumn . . .	158	225	181	284	227	279	180	306	306	337	2,483	248·3
Winter . . .	194	253	250	274	269	261	194	254	360	343	2,652	265·2
Spring	143	262	264	206	209	225	184	191	289	290	2,163	216·3
Sum	618	843	829	1107	887	1022	749	1030	1148	1268	9,501	950·1
Mean	1545	211	207	277	222	255·5	187	257·5	287	317	2,375	237·5

PENSION TO THE WIDOW OF THE LATE MR. LISTON.

The Queen has conferred a pension of £100 a-year on the civil list upon Mrs. Liston, widow of the eminent surgeon, whose affairs at his decease were not found in the prosperous condition that might have been expected from his extensive practice and professional reputation. Her Majesty has also placed upon the civil list for £50 a-year the widow of Mr. Sturgeon, of Manchester, upon whom a pension was lately conferred, but which he lived so short a time to enjoy.

⁂ It is strange that the benefits of life-insurance are so completely overlooked by members of the medical profession. Their surviving widows or children are allowed to depend on the casual bounty of the Queen, or on the charity of their medical brethren.

THE REGIUS PROFESSORSHIP OF MEDICINE IN THE UNIVERSITY OF CAMBRIDGE.

Dr. Henry J. Hayles Bond, Deputy Regius Professor of Medicine in the University of Cambridge, has been appointed Regius Professor of Physic in that University, rendered vacant by the death of Dr. Haviland.

THE QUARANTINE CONGRESS.

Dr. Babington has been nominated by Lord Palmerston to act for and represent the British Government at the Quarantine Congress which is shortly to be held at Leghorn. The object of this meeting is stated to be the reconstruction of a code of Quarantine laws based on reasonable principles, which shall bind the different maritime nations of Europe.

BLOOMSBURY DISPENSARY—MEDICAL APPOINTMENT.

The contest for the office of Physician to the Bloomsbury Dispensary has ended in the appointment of Dr. Pidduck, of Montague Street, Russell Square. The salary attached to the office is one hundred pounds per annum.

THE METROPOLITAN FREE HOSPITAL—ELECTION OF MEDICAL OFFICERS.

At a Special General Court of this Institution, held on the 6th instant, for the purpose of electing three physicians and one surgeon, the following gentlemen were unanimously elected, the other candidates having resigned:—*Physicians*—Dr. J. Stevenson Bushnan; Dr. J. Spence Ramskill; Dr. C. Thomas Richardson. *Surgeon*—George Borlase Childs, Esq.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 17th instant:—Messrs. H. O. Thorald—J. G. Porter—H S. Hounsell—A. Bell—R. C. R. Jordan—T. Husband—J. Lacey—H. K. Watson—T. M. Rooke.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 16th January, 1851:—George Bacon Sweeting, Dorset; John Cromwell Blackford, Bromsgrove; Alfred Kitching, Hull; Edward George Wake, Hull.

OBITUARY.

THE MARQUIS OF NORTHAMPTON.

This nobleman, so well known as the patron and cultivator of science, and long the President of the Royal Society, died on Friday last at his seat, Castle Ashby, in the 60th year of his age. The Marquis of Northampton was elected President of the Royal Society in the year 1838, and held the office for the period of ten years.

On the 8th inst., at Chertsey, James Robert Cole, Esq., surgeon, aged 39.

Selections from Journals.

CASE OF LACTATION IN A MADE. BY C. W. HORNER, M.D., OF PHILADELPHIA.

(Communicated by Prof. Dunglison.)

The following is a singular case of lactation in an adult male. It occurred in the person of an athletic American, named Charles Collins, aged twenty-two years, a blacksmith, working at his trade in New York. About the 10th of February last his attention was first drawn to his left breast, which appeared to be enlarging, and continued to increase in size for three weeks, when he came to Philadelphia. After being in this city for three weeks, he became quite anxious in regard to his condition; for, although he suffered very little pain, the mamma had become quite as large as that of a female nursing. He therefore, through the persuasion of an aunt, was, on the 23d of March, induced to apply at the Clinic of the Jefferson Medical College to consult the faculty of that Institution. His case came up before Prof. Mutter, who upon examination found the mammary gland largely developed, and filled with the lacteal secretion, which differed in no wise from that of a mother. He could assign no cause for this freak of nature: his health was very good, and the other breast natural. A soap plaister was prescribed, and compression ordered to be kept up, which he persisted in for full six weeks, when the gland returned to its usual size: and when I saw him this morning at Fairmont, where he now resides, it was in every respect like the other.—*Philadelphia Medical Examiner.*

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 18.

BIRTHS.		DEATHS.	
Males....	815	Males....	507
Females..	784	Females..	530
	1599		1037

CAUSES OF DEATH.

ALL CAUSES	1037
SPECIFIED CAUSES	1002
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	196
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	36
2. Brain, Spinal Marrow, Nerves, and Senses	137
4. Heart and Bloodvessels	43
5. Lungs and organs of Respiration	202
6. Stomach, Liver, &c.	66
7. Diseases of the Kidneys, &c.	18
8. Childbirth, Diseases of Uterus, &c.	7
9. Rheumatism, Diseases of Bones, Joints, &c.	8
10. Skin	1
11. Premature Birth	27
12. Old Age	45
13. Sudden Deaths	4
14. Violence, Privation, Cold, &c.	23

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	21	Convulsions	60
Measles	16	Bronchitis	91
Scarlatina	19	Pneumonia	69
Hooping-cough	44	Phthisis	121
Diarrhœa	15	Lungs	15
Cholera	1	Teething	10
Typhus	35	Stomach	3
Dropsy	11	Liver	10
Hydrocephalus	28		
Apoplexy	16	Childbirth	4
Paralysis	21	Uterus	3

Remarks.—The total number of deaths was 111 *below* the average mortality of the 3d week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·53
" " " Thermometer[a] ...... 45°
Self-registering do.[b] .... Max. 54° Min. 29°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·55.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 9° *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Communications have been received from Dr. Ogston, Dr. W. Hamilton, Dr. Quain, Mr. Nunn, and Dr. Powell.

Dr. Barclay.—We will endeavour to find room for the paper in an early number, as the subject is of great importance and interest.

A Subscriber will perceive that his request has been attended to. We had not noticed the advertisement.

Mr. W. T. Robertson's letter shall be inserted next week.

Lectures.

CLINICAL LECTURE ON A CASE OF PNEUMO-THORAX,

WITH TUBERCULAR CONSOLIDATION OF PART OF THE RIGHT LUNG.

(Delivered at King's College Hospital.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XVIII.

Case—Signs of consolidation of lung, and of slight pleuritic effusion—Ægophony—Slow progress of the case—Sudden tympanitic state of chest—Amphoric blowing—Diagnosis—Causes of air in the pleura—Prognosis—Treatment by opium.

Gentlemen,—I propose to-day to offer you a few remarks on an interesting case of pneumo-thorax, from perforation of the lung, now in the Hospital,—a case whose history is highly characteristic and instructive, and in which, from the probability that we shall in a few days witness its fatal termination, we shall have an opportunity of comparing the physical signs with the exact diseased condition, and ascertaining how far our diagnosis may be correct or otherwise.

The patient, Thomas Thompson, æt. 30 (vol. xxviii. p. 110), a man of phthisical aspect, was admitted into the Hospital nearly a month ago (Oct. 30, 1850,) suffering principally from dyspnœa. By trade he is a house-painter; has always had sufficient employment, has lived well, is of temperate habits, and has never been particularly exposed in his trade: there does not appear to have been any phthisis in his family.

About seven weeks before his admission he suffered an attack of hæmoptysis,—always a suspicious circumstance; it came on without any premonitory symptoms, his health being apparently at the time as good as usual. It first appeared in the night, and awoke him from his sleep: he spat something into the chamber-pot, and found in the morning that it was blood; in amount it did not exceed an ounce. But the quantity of blood in hæmoptysis is of secondary importance as regards the diagnosis of phthisis; sometimes it is an ounce, sometimes a pint or more, and sometimes the hæmorrhage that marks the first approach of phthisis is no more than a tinging of the sputa: the *quantity* of blood, therefore, is comparatively of small moment in the diagnosis: the *fact* is very material, and the continuance of the hæmoptysis, or the frequent repetition of it, is of great importance.

For three or four days he continued to expectorate blood in small and diminishing quantities; it was florid and mixed with mucus, and the whole amount did not exceed a tea-cupful. A few days after cough came on, particularly in the morning, and harassed him greatly: to this, soon after, succeeded dyspnœa. He found the difficulty of breathing greatest on any exertion, as walking up-hill or upstairs, or after a fit of coughing: both these symptoms have continued to the present time. He suffered, a few days previous to his admission, from pain near the inferior angle of his right scapula, increased on coughing or breathing deeply. He could lie equally well (the report goes on to say) on both sides; but he generally lay on his back, and low at head: he distinctly denied having had any sharp pain in his right side, any inability to lie on that side, or any catch in his breath. No purging; pulse 80; respirations 36.

When we came to make a minute examination of him, we found that the principal symptoms were pain below the right scapula, occasional cough, and constant shortness of breath; and the physical signs were such as to denote disease of the base of the right lung. Percussion over all the inferior portion of the back of the right lung yielded a dull sound, and over all this region well-marked bronchophony and bronchial breathing were audible, except at the very base, where the bronchophony was supplanted by ægophony, and where there was a total absence of all breath sounds. On applying the hand over the region where the ægophony was heard, vocal vibration was found to be absent; over the region marked out by the bronchophony it was perceptible, but was less strong than on the left side.

Now I take it for granted that you all know the value and indications of these signs,—that bronchophony denotes that the lung intervening between your ear and some of the air-tubes of the lung possesses the power of conducting sound in an undue degree, from some form of increased solidity; that vocal fremitus indicates the contact of the lung with the thoracic parietes at the part where it is felt; and that ægophony denotes a stratum of fluid intervening between the ear and the lung, through which voice sounds have to pass, and by which they are modified. In the ordinary healthy condition the voice passes at once from the lungs through the parietes of the chest to the ear of the auscultator; but, where there is any fluid in the pleural cavity, the vocal vibrations have to pass through lung, fluid, and thoracic walls, before they reach the ear. If there is much fluid, the lung is so compressed that it ceases to be a conductor of the voice sounds; it is pressed up against the spine, and the vocal vibrations created in the larynx cannot be propagated by it to the walls of the chest: therefore ægophony indicates not only the presence of fluid, but shows that the amount of that fluid is small. When you have pleuritic effusion you must, to a certain extent, have compression, and therefore some consolidation of the surface of the lung: hence, whenever you have ægophony, you generally have a certain amount of bronchial breathing; but the bronchial breathing, if existing only in this proportion, merely results from the compression, and is not indicative of any deposit in the substance of the lung. In the present case, however, the bronchial breathing was so distinct, and existed so far above the space to which the ægophony was confined, that we diagnosed not only pleuritic effusion, but consolidation of the lung, either by hepatization or by tubercular deposit.

Well, the case went on with a morbid tardiness. The fluid became absorbed, and the physical signs underwent a corresponding modification: the bronchial breathing and bronchophony continued, but the ægophony almost disappeared. On the 22d, more than three weeks after his admission, I could hardly say whether there was ægophony or not: the bronchophony had an ægophonic character, but whether it deserved the name of ægophony I could hardly determine.

You may remember, in my observations on the case as I went round the wards, that I noticed the obstinacy with which the state of solidification resisted the action of medicines. I felt sure there was something that kept up this state. You know that, in ordinary cases of hepatization of the lung in persons otherwise healthy, the solidification resolves itself pretty quickly, often very much so,—I have known hepatization appear and disappear in twenty-four hours but here, although we used nearly all the armature of physic,—although we mercurialized him, and iodized him, and treated him with all that range of remedies supposed to be efficacious in promoting the reabsorption of effused matters,—still it persisted; and you may remember I was very anxious to know the cause of this obstinate continuance. If there were no signs of tubercle elsewhere, the fact of its being the lower part of the lung that was solidified was against the supposition of phthisis. We examined the upper part of both lungs carefully on several occasions, but we could find no evidence of tubercle in either; still I entertained suspicions that the case was phthisical, and those suspicions were increased by the early history of the case: the hæmoptysis, the cough, the loss of appetite, the sweating at night, the dyspnœa,—all pointed to this; and finding it so obstinately resist remedies would of itself have excited strong suspicions in my mind, even in the absence of other evidence.

On the 24th, having left him at my previous visit much the same as he had been for many days, with a pulse of 110, and breathing pretty tranquilly, we find him suddenly seized with extreme dyspnœa, performing fifty respirations in a minute: great pain in the right side, which came on suddenly with the dyspnœa; an anxious expression, and blueness of the surface. On examining him to find out the cause of the sudden dyspnœa, I found that respiration was very imperfect on the right side, while it was puerile on the left; that, on percussion, while the upper part of the right lung was normally resonant, the lower part had ceased to be dull, but was instead remarkably tympanitic: and finally, when I came to examine more minutely, I found that the breathing in the upper part of the lung was vesicular, whilst in the lower part, in the region corresponding to the tympanitic percussion, the sounds of respiration were almost lost, what remained having a bronchial character; and that they were accompanied by that peculiar metallic sound, like blowing into an empty barrel, to which the name of *amphoric resonance* (bourdonnement) has been given. These were exactly the signs which I found on Sunday,—this was just the condition of the right side. Now, if all this had occurred on the left side, there might have been a source of fallacy from the presence of the stomach on that side: an empty stomach much distended with air would have produced analogous phenomena,—as far as regards the percussion; but on the right side this source of fallacy does not exist; and the only thing that might cause an approach to these physical signs would be an enormously inflated transverse colon: but this would hardly produce an approach to what we find in the present instance, as far as regards the physical signs; the tympanitic percussion-sound would not extend so high in the chest, nor would it have been confined to the chest, and we should have found a great portion of the abdomen similarly affected.

The most probable explanation of the phenomena, then, will, I think, be derived from assuming that air had suddenly found its way into the cavity of the pleura. You are aware that air never exists naturally in the pleura, but that the two surfaces—the parietal or costal, and the visceral or pulmonary—are in immediate contact. The question then arises—how did the air get in? What could have caused this strange phenomenon? It is very probable that air may be secreted by the pleura: there are high authorities who maintain the existence of such cases—cases in which air is found in the pleura with a manifest absence of any aperture, either external or internal, by which it could have obtained ingress: or air may have been generated in the pleural sac by the decomposition of fluids previously existing there.

Now, without discussing the interesting pathological question—whether air may be developed in the pleura in either of the ways I have just mentioned—I must content myself with stating that either mode of the development or generation of air would not give rise to the *sudden* manifestation of the severe symptoms such as took place in our patient Thompson on the 24th of November. The pain and the oppressed breathing might have come on quickly, but not suddenly; nor would the physical signs have developed themselves so rapidly as in Thompson's case. We must, then, look for some other explanation for the sudden appearance of air in the pleural cavity; and I think we shall have no great difficulty in finding it. Now we know that perforation of the lung and pulmonary pleura is not an uncommon occurrence; we know, when it does occur, and a communication is thus established between the pleural cavity and the air in the lungs, that a certain amount of air is drawn into the cavity of the pleura at each inspiration, more or less of which is retained there, the quantity augmenting by a regular increment at each inspiratory act, with a rapidity proportionate to the size of the orifice; that, as the quantity of air increases, the lung undergoes compression, and the chest dilatation; so that, in some instances, the lung may be at length rendered incapable of respiration, being pressed back against the spine, as we often find to be the case under fluid.

Now what have we in the present case consistent with such an explanation as this? We have previously-existing disease of the lung, sudden accession of dyspnœa, sudden tympanitic condition of the chest, diminution of respiratory sounds, loss of vocal fremitus, and, more conclusive than all, the addition of a peculiar characteristic sound, which sound is heard in the situation of the previously-existing disease.

The most probable conclusion that I can come to is, that either from pneumonia a superficial abscess has been formed, which has burst by the giving way of the pulmonary pleura, and so opened a communication between the lungs and the pleural cavity; or, what is much more probable, that the same condition had been brought about by the softening and breaking down of tubercular deposits, one or more, situated immediately beneath the pleural surface, having given way, and so produced the opening: this seems to me the most probable explanation of the case. You know that what we have to account for is the sudden accession of the dyspnœa and other symptoms, the tympanitic condition of the chest, and the amphoric blowing: for all these phenomena my hypothesis accounts, and for them no other that I know of would; and experience tells us that the majority of cases of pneumo-thorax are thus produced.

It is true that if a portion of lung were solidified, and a stratum of air interposed between it and the wall of the chest, the bronchial breathing would be rendered amphoric by the interposed stratum of air; and this intervention of air might arise from rupture or from secretion.

It may seem against the supposition that the cause of the rupture is softened sub-pleural tubercle, that the amphoric blowing, and therefore the opening, is at the lower part of the chest; but, although this rather weakens the probability, it certainly does no more, since tubercles are occasionally met with exclusively in the lower part of the lungs; and it by no means counterbalances the other symptoms in the early history of the case, which seemed to indicate its phthisical nature.

Now if anything were to occur to plug up the opening, the amphoric blowing would cease, provided the lung were not solid. If it were solid, the bronchial breathing would put on the amphoric character. You will remember that in this case we had already, before the occurrence of pneumo-thorax, diagnosed solidification of the lowest lobe of the right lung.

Sometimes gangrene of the lungs will give rise to such a train of symptoms as have been above enumerated: an eschar will form, involving the pulmonary pleura, and thus forming a communication between the lung and the pleural cavity: but the great diagnostic sign of gangrene of the lungs—fœtor of the breath—is here absent: that supposition must, therefore, be negatived.

Now what will be the probable progress of this case? At present we have only one sign which may be called truly pathognomonic and characteristic — the amphoric blowing. Before the case terminates it is possible, and not improbable, that we shall have more, or at least one other. The particular sound to which I refer is the *metallic tinkling*—a name which it has received from its sharp ringing character: it is caused by the dropping of fluid from one part of the chest into another through the air contained in the cavity of the pleura. If the patient lies down, the surface of the lung becomes bathed in the fluid: if he then suddenly rises, the fluid gravitates to the bottom of the chest, and that portion, with which the surface the lungs is wetted, falls in successive drops into the fluid below: by communicating sudden movements to the chest, a splashing sound may be produced, of an exactly analogous nature. Metallic tinkling cannot take place unless *air and liquid co-exist* in the chest; it depends upon the agitation or dropping of fluid in a cavity occupied by air: hence we do not get metallic tinkling in those cases of ordinary liquid effusion which follow pleurisy, because there is no air; and we do not get it in those cases of pneumo-thorax which sometimes, though rarely, occur, where there is no other effusion because of the absence of the liquid.

There is one condition that may simulate this, and that may be, without great care, confounded with it,—a condition that may be evinced by identical physical signs, and in which we must resort sometimes to other than the physical signs for the diagnostic marks. Sometimes a large cavity is formed near the surface of the lung by the breaking down and expectoration of tubercular matter; such a cavity will contain within it all the conditions necessary for the production of metallic tinkling and amphoric resonance,—namely, a large amount of air, a certain amount of liquid, and one or more openings through which air is ever passing into the cavity. The present case cannot be one of that kind, because the dyspnœa and amphoric breathing came on so suddenly,—because the area of the tympanitic percussion is too extended,—and because there has been no gurgling or cavernous breathing.

What we have to do in watching this case is to look out for the appearance of metallic tinkling, and for any change that may take place in the amphoric blowing—in other words, to look out for the formation of fluid by a pleuritic state consequent upon the introduction of air: or, on the other hand, we must look for the disappearance of these signs, and the removal of the air by absorption, the opening in the lung being closed either by a healing process or by being plugged up by tubercular or other matter. The long continuance of the signs of consolidation previous to the occurrence of the pneumo-thorax, and their persistence in spite of all modes of treatment, precludes the idea of the existence of simple pneumonia; and the previous history is so favourable to phthisis, that I fear we must let our prognosis rest upon that, and be prepared for the gradual sinking of our patient from the extension of tubercular disease—the softening of tubercles—the embarrassment of breathing—the hectic.

Whatever view we may take of the case, it is clear that but little is now to be done by the interference of art. To open the chest with the idea of giving egress to the air promises nothing, as the probability is that the air thus evacuated would be quickly replaced by other air less suited to the pleural cavity by its temperature and moisture, than that which had previously passed through a certain portion of the air-passages. If we were to tap in such a case, we should have two apertures into the pleural cavity instead of one, and should not be a step nearer the eradication of the cause of the malady. The course which I have pursued with this patient has been to keep his thorax firmly bandaged, in order in some degree to limit undue distension of the chest by the accumulation of air in the pleura; and I have also kept him under the influence of opium, with much the same view as I should adopt the same plan in a patient threatened with peritoneal inflammation after some operation opening the sac of the peritoneum, or after perforation of the intestine. He bears the opium well, and I think it exercises a favourable influence upon him. His respirations are less frequent, and the pulse does not exceed 110; and he is able to take a fair amount of nourishment. It is now six days since the sudden appearance of the symptoms of pneumo-thorax, and no evidence of the formation of fluid has appeared.

I fear, however, that before we next meet we shall have an opportunity of verifying or correcting our diagnosis.

IN THE MATTER OF THE MEDICAL SOCIETY OF LONDON.

Vice-Chancellor's Court, Jan. 28, 1851.

MR. PRENDERGAST stated this to be the petition of Mr. Nathaniel Clifton, a surgeon, the treasurer of the above Society, which was founded in 1773. Certain property in Bolt Court, Fleet Street, was in 1787 vested in the late Dr. Sims, Dr. Hooper, and Mr. Lowdett surgeon, upon trusts for the Society. New trustees were at a subsequent time appointed, who being dead, the petition prayed a reference for the appointment of others. The learned counsel asked, that instead of a reference the court would at once appoint Mr. — Hancock of Harley Street, Mr. — Headland of Guildford Street, and Mr. Nathaniel Clifton the treasurer; of whose fitness to be trustees there was evidence.

His HONOUR made the order for th appointment of these gentlemen at once.

Original Communications.

CASES OF
ARSENICAL POISONING.

By Dr. Ogston,
Aberdeen.

The following case, which was lately the subject of a judicial inquiry here, presents some curious anomalies which may justify its publication. The outline given of the history during the patient's life has been borrowed from the notes obligingly supplied by the two gentlemen who attended her; the first of them at the house of the girl's employer, the second practitioner at the Aberdeen Royal Infirmary. My own connection with the case began at the post-mortem inspection.

I. Ann Mackie, a domestic servant, in her 16th year, in consequence, it is believed, of having been charged with some petty delinquencies, purchased a penny-worth (ʒiij.) of arsenic, which she swallowed, about half-past 11 on the forenoon of the 28th of October, 1850. By her own subsequent confession she had licked the dry arsenic off the paper in which it was wrapped, consuming every particle of the poison. At half-past 1 P.M. she was seen by Dr. Runcie, who found her eyes much injected, her countenance livid, and her pulse slow and feeble; saliva was flowing profusely from her mouth, and she had passed her urine and fæces involuntarily; she appeared drowsy, and complained of pain in the forehead, but refused to answer questions.

Three successive doses of sulphate of zinc, administered at intervals of twenty minutes, having failed to act, the fauces were tickled with a feather, which brought on vomiting, which was kept up for two hours by the use of tepid water and sugar.

The matters first vomited contained a white powder which was found to act characteristically with the liquid tests for arsenious acid.

In the evening the countenance was more natural; she complained of severe thirst and headache; the lower extremities were cold. During a restless night which succeeded, the bowels were freely evacuated, the fæces having a peculiar fetid odour, though otherwise natural, and she had had frequent vomitings of a bright yellow bilious (?) matter.

29th Oct. (noon).—The vomiting continued; the ejections dark and flocculent. Pressure over the stomach and bowels elicited no complaint of pain or uneasiness. Twenty drops of laudanum exhibited, and a poultice applied to the epigastrium.

In the evening the vomiting had ceased; there was no thirst, and she was desirous of food. Had a dose of castor oil.

30th.—Admitted this morning into the Aberdeen Infirmary, to which she walked without assistance—a distance of 400 or 500 yards. When visited by Dr. Nicol she appeared like a person labouring under ordinary fever: the face was flushed, the pulse quick, weak, and compressible, thirst urgent, the tongue red and dry, the lips parched, and the cuticle exfoliating from them. She complained of headache and pain at the epigastrium, with inclination to vomit whatever was swallowed. Micturition was painful and difficult. Ordered a mucilaginous mixture, with a few drops of liquor potassæ and tincture of henbane, every 3d hour, and milk and water and ginger-beer occasionally to relieve the thirst.

31st.—Vomiting ceased; less flushing of the face; nearly free from pain; thirst continues; tongue and lips dry and parched; no motion from the bowels since her admission into the hospital. Ordered a dose of castor oil.

Nov. 1st.—The castor oil vomited yesterday; no motion from the bowels; thirst still urgent; appears otherwise improved. Ordered a purgative enema, and effervescing mixture to allay the thirst.

2d.—During the night had been at times incoherent, and had passed her fæces in bed. At 5 A.M., when raised to the night-stool, she was seized with rigidity of the joints, followed by general clonic convulsions, which gradually ceased on her being replaced in bed. At ten minutes to 9 A.M. she had a return of the convulsions, which proved fatal at 9 A.M.

3d.—A careful inspection of the body was made this day, 23¼ hours after death. The corpse exhaled a heavy putrid odour, which increased on the opening of the cavities; the integuments were greenish at both groins, and over the epigastrium; the lips were bluish;

the dependent parts of the trunk were moderately livid; the rest of the surface of the body was pale; the pupils were dilated; a little half-dried mucous froth at the lips; the scalp was bloody; the sinuses and veins on the surface of the brain contained a good deal of fluid blood; the general mass of the encephalon was firm, and paler than usual; both thalami nerv. opt. were softer than natural, as was the medulla oblongata, and the spinal cord immediately beyond the foramen magnum; the remainder of the spinal cord was healthy; the lips were slightly excoriated; over the root of the tongue the whole of the pharynx, and the upper part of the œsophagus, the mucous surface was of a uniform red, without distinct vascular injection; the epiglottis was of a bright red; the glands at the root of the tongue were much enlarged, and of a livid hue; the larynx and trachea were nearly filled with mucous froth. Both lungs were very dark, and much congested, presenting a close approach to pulmonary apoplexy. The pericardium was distended with clear serum; the right cavities of the heart were completely empty; its left cavities contained a few minute clots of blood adhering to their walls. The liver was bloodless, and of a uniform deep gamboge hue throughout. Over the lower part of the œsophagus, the great cul-de-sac, and pyloric extremity of the stomach, and the course of the duodenum, the lining membrane of the alimentary canal presented the same uniform dull redness previously noticed in the throat. The interior of the stomach and duodenum was lined with tough colourless mucus, but the structure of these viscera was unaltered. The stomach contained a thick dark red liquid, apparently altered blood. The kidneys were pale; and, on tearing off their capsules, portions of their surfaces presented a buff colour; the urinary organs were otherwise healthy, as were the genital organs, the lower part of the rectum, and the other viscera. A few drops of urine found in the bladder, of a milky appearance, after being boiled with nitric acid threw down on standing a flaky appearance.

Subsequently to the inspection of the body, we examined an ounce of a thick, whitish fluid, which had been vomited by Mackie on the 28th of October. It contained a copious sediment, which was found by the microscope to be chiefly starch granules (oatmeal), with a few minute colourless crystals. On acidulating the whole with hydrochloric acid, boiling, and throwing it in a filter, a fluid passed through, which, without any further preparation, yielded a precipitate, with sulphuretted hydrogen, which, when reduced, was found to give 23·312 grains of arsenious acid.

Six ounces of blood removed from the chest, two ounces of the liver, and half of the fluid from the stomach, were also successively examined. From each of these, by Reinsch's test, crystals were obtained in sufficient quantity to afford, when dissolved in a few drops of water, the characteristic results with the liquid tests for arsenic and the hydrosulphuric acid.

Remarks.—The above case affords an additional proof of the correctness of those toxicologists who would place arsenious acid amongst the narcotico-irritant poisons. The delay of the vomiting for at least two hours and forty minutes, the difficulty even then in inducing it after the taking of a drachm of sulphate of zinc, the little urgency on the whole of this symptom afterwards, the absence of pain or tenderness to any marked extent within the abdomen, the costive state of the bowels for a considerable period, and the want of decided inflammatory appearances after death in the stomach and bowels,—all point to the comparatively slight irritant effects on the intestinal tube of the large dose of arsenic swallowed. In contrast with this we have the headache, stupor, feeble pulse, cold extremities, nausea, tonic and clonic spasms, and ultimately death by syncope; showing the chief action of the poison to have been on the nervous system. How far this state of matters in the present instance may have been owing to so much of the arsenic having been got rid of by vomiting, it would be difficult to decide. The finding of traces of it in the blood, liver, and even in the contents of the stomach, on the sixth day after death, showed that the emetic had not acted efficiently. The state of the lungs, and, perhaps, also the strangury, must have originated in the absorption of a part of the poison at different periods before death.

I am not aware that softening of any portion of the encephalon has been noticed in a previously healthy person after a poisonous dose of arsenic. The softening of the medulla oblongata was so decidedly marked in the present instance that this part tore across in the removal of the brain, although being conducted with ordinary care.

Merely directing attention to the putrefaction of the body, the clots of blood in the heart, and the remission which took place in the symptoms at one period of the treatment, as rare circumstances in the history of arsenical poisoning, I would only further allude to the resemblance which Mackie's state was observed to bear when admitted into hospital to ordinary continued or typhoid fever. The same feature presented itself to my notice in a police case, in December 1846, where a woman (M'Leod), twenty-five years of age, recovered from the ingestion of two pence worth of arsenic (quantity not determined), after early and full vomiting, and the use of the hydrated tritoxide of iron (?); though for several days after she presented all the marks of a person labouring under typhoid fever; with the addition, however, of great irritability of stomach.

The case which follows is selected out of some others in my case-books as illustrative of the remarkable recoveries which sometimes are known to take place after large doses of arsenic, in consequence, apparently, of the largeness of the dose ensuring its instant and entire rejection.

II.—On the 7th of August, 1832, three women of loose character—Ann Davidson, æt. 40, Mary Donaldson, æt. 25, and Euphemia M'Kay, æt. 30—living together, had picked, from the pocket of a rat-catcher, who had lodged with them, a paper parcel, filled, as they believed, with flour. This supposed flour they baked into a cake with oatmeal, eating the greater part of it. Davidson, who had partaken most largely of the cake, was immediately seized with vomiting, which persisted for some hours. Donaldson, who had only taken one mouthful of the cake, also immediately rejected it, as did M'Kay a little later, who had eaten freely of it. Alarm having been taken, a medical man was sent for, who, seeing the state of the females, and finding that the fragment of the cake which was left was "full of glittering particles," without doing anything, went directly to the police-station and reported that the "three women were ill, supposed to have taken poison." On arriving soon after, I was shown the wrapper, which was labelled "arsenic, two lbs." It was said to have been full when it was taken possession of by the females, and was sufficiently large to have contained the quantity marked on it. In the folds of the wrapper a few grains of a white powder were discovered, which on examination proved to be arsenious acid finely powdered.

The vomiting was the only symptom which showed itself in Davidson's case. Donaldson complained of thirst, heat about the fauces, sense of constriction at the throat, and pain in the epigastrium and over the abdomen. M'Kay suffered from thirst, heat in the mouth, œsophagus, and stomach, and uneasiness, increased on pressure, over the epigastrium. An emetic of sulphate of zinc caused M'Kay to reject a considerable quantity of oatmeal cake.

The parties were subsequently removed to the Aberdeen Infirmary, but, no injurious effects having been profollowed by the poison, they were dismissed in a few days.

Remarks.—The abstraction of the remains of the cake prevented me from ascertaining the exact quantity of arsenic taken in this instance; but, even making large allowances for the portions of the cake wasted or left, as well for the probably unequal distribution through it of the poisonous ingredient, and the amount of acid volatilized by the heat in cooking, no room is left for doubt that enormous doses of it had been swallowed by Davidson and M'Kay. It was equally evident that, in these cases, the speedy rejection of the poison had proved their safety. The stupidity of these ignorant and destitute females, in partaking of an unknown substance under such suspicious circumstances, is not altogether without its parallel in other cases of accidental poisoning with arsenious acid.* From its bearing on the still somewhat unsettled question as to the *taste* of arsenic while being swallowed, it may not be out of place to notice the conflicting accounts given on this point by these women. Davidson stated that on eating the cake she felt a biting taste in her mouth, which she attributed to some dripping she had added to it, and which she thought must have been seasoned with pepper. Donaldson could not explain the cause of the dislike she had taken to the cake on tasting it. M'Kay again said she did not perceive anything unusual about it. In the case below, M'Andrew thought that the strawberries had "an ill taste." M'Leod (vide *ante*) said the arsenic had "a peculiar sweetish taste:" she had diffused it through water. I have heard the term "brassy" applied to the taste of arsenic, as also that of "gritty;" though I have no doubt, from what I have known of this poison, that, in the majority of instances, no taste is perceived at all in the swallowing of it, provided its grittiness is not felt—an opinion first distinctly announced by Dr Christison.

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* One such accidental case—though certainly of a much less remarkable kind than the one under notice—was the subject of a judicial inquiry here in July 1835. A woman of the name of M'Andrew, employed to gather fruit for a market gardener, on going into the garden early in the morning, observing some strawberries lying on a cabbage leaf at the side of one of the walks, took them up and eat them. Being soon after taken very ill I was sent for, and informed that the centre of the strawberries had been carefully hollowed out, and their cavities filled with arsenic, to serve as a bait for rats, and that in this state the gardener had placed them by the side of a rat-hole in the previous evening. After a serious illness of some days' duration,

The following narrative is adduced as affording an illustration of the effects of arsenic on the healthy skin, in the unbroken state of the cuticle.

CASE III.—Eighteen years ago, a party of workmen, in the employment of a house-painter in Aberdeen, were engaged at a gentleman's house in the county of Kincardine, in some polishing operations, in which baryta is used for obtaining a smooth surface. From accident they had taken with them from town a small cask of arsenic instead of one of baryta. After working for a few days with the arsenic, one of the men was attacked in the morning with febrile symptoms, which sent him to bed for the rest of the day, when a thick crop of minute papulæ appeared in the face, scrotum, groins, and backs of the hands, accompanied with redness and itching of the parts, and minute pustules at the points of the fingers and below the nails. In two days the eruption disappeared, leaving the face, scrotum, and backs of the hands mottled with red spots, much as in a person after an attack of small-pox. With slight variations the same effects were produced on six others of the workmen who had used the arsenic. In one of these men the pustules were not confined to the fingers, but extended to the backs of the hands, and to the wrists; whilst he had escaped the febricula, but had roughness and rawness of the throat, which he attributed to his having been exposed to the fumes of the arsenic while warming it in a pan over the fire. I saw this person the day after his seizure, and a second workman in the first stage, while in bed with the ephemera. One other workman showed me the papulæ on his face and scrotum. The history of the other cases was drawn up from the accounts given by the men themselves. None of the parties seemed to have been in any danger, and the only remedy they had thought of having recourse to was opening medicine. They attributed the eruption on the scrotum to their handling the part frequently when warmed with their work.

In concluding this notice of some of the more rarely observed effects of arsenic, and of the occasional anomalies presented in cases of poisoning with this substance, I would only further subjoin an instance of *imaginary* poisoning, a class of cases which are on the increase, and which sometimes cause the medical practitioner no little anxiety, lest by treating them too lightly he may render himself a party to the concealment of crime.

IV.—In 1841, a young man, of the name of Lawrence, presented himself to me, and gave me the following history:—He had been a schoolmaster, and some years before he had connected himself in marriage with a worthless woman, whom he had subsequently been compelled to desert. This person in revenge had then attempted to poison him. On this occasion he had suffered from excruciating pains in his bowels, after partaking of some food to which she had had access. In order to avoid a similar fate he had for some months been removing from place to place, having visited in succession Edinburgh, Glasgow, Liverpool, Manchester, and lastly Aberdeen. He accused his wife of following him everywhere in his wanderings, and of conspiracy with the people at his several lodgings, and with tradespeople from whom he procured his food, to drug it with arsenic. In confirmation of this last statement he showed some newly purchased butter, which he affirmed was thickly studded

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the woman escaped from the more direct effects of the poison, but at the expense of a shattered constitution.

with particles of arsenic, though the butter on inspection looked to be free enough of admixed poison.

Remarks.—There could be no room for hesitation in deciding that this unfortunate individual had been for some time labouring under monomania. He was intelligent and sensible on every other subject, except the one he was disposed to dwell on,—the suspicion of poison, which was unquestionably in his case an insane delusion, though so satisfied was he upon the point, that he had lodged informations against his wife, as a poisoner, with the law authorities of several of the towns he had visited, and had done so with the public prosecutor here, by whom he had been referred to me. On few occasions, however, of this kind will the medical practitioner be altogether justifiable in dismissing this class of cases, without a chemical examination of the suspected article of food, or the vomited matters. Such an examination will sometimes lead to the proof of actual poisoning in cases of illness, which otherwise might be liable to be treated as purely imaginary.

Thus, in the case of an old man, a brass-founder, who charged one of his relatives with giving him arsenic in repeated doses, the account given of his state was so confused, the particulars of the accusation had so little probability, and he was besides so crack-brained a personage, that in spite of the severity of his illness,—the severity of which was somewhat anomalous,—I should have been inclined to consider the poisoning to be imaginary, but for the detection of arsenic in some fluid vomited in the presence of another practitioner and myself. The explanation of the circumstance come to ultimately was, that having arsenic beside him for carrying on his trade, he had taken some of it, with the view of imputing the effects—from which he recovered—to the relative in question, of whom he had a deeply grounded dislike.

On the risk of confounding the more anomalous cases of arsenical poisoning with ordinary disease, we have some very important and pertinent remarks, in a recent paper by Dr. Taylor, in "the Guy's Hospital Reports" (vol. vii. part i.) when commenting on his 3d case, which agrees in several particulars with that of Mackie.

[To be continued.]

ON THE

RISE, PROGRESS, AND VARIOUS TERMINATIONS OF CHRONIC OVARIAN TUMORS.

By Edward John Tilt, M.D.,
Senior Physician to the Paddington Free Dispensary for the Diseases of Women and Children, &c. &c.

[Continued from p. 82.]

Effects of Ovarian Tumors on the Peritoneum.

Amidst all the wonders offered to the admiration of the anatomist, none is more extraordinary than the peritoneum, with its vast extent, its peculiar properties, and remarkable power of adaptation to the rhythmic vicissitudes of health and the most direful exigencies of disease.

This membrane plays a truly providential part with respect to all the abdominal viscera. Let them shrink to the most diminutive size, it is sure to follow them, and it is equally able to cover and protect them, however enormously they may be distended; and, but for its interposition when wounded, they could not be healed; for it pours out a glutinous secretion, and offers a portion of its surface to fill a gap and heal a wound. It does more; for it has the power of absorbing substances analogous to those which it secretes, and thus soon removes what might long have weighed heavily on the system; and even if it cannot absorb the pernicious substances poured into its cavity, it often throws up defences in the shape of false membranes, hems in its enemy, and sometimes contrives to eject him from his usurped abode.

In thus describing the part taken by the peritoneum with respect to the abdominal viscera, we have likewise faithfully described its manner of action towards ovarian tumors. It follows them in their utmost distension; and when, as we have already seen, the cyst unites with the vagina, or with the intestine, in order to unload itself of its contents, the two folds of the peritoneum form the bond of union, and frame a channel for them; and when the cyst is ruptured, the peritoneum, by absorbing the fluid effused, causes a temporary or a radical cure. Thus the effect of ovarian tumors on the peritoneum is—

I. To cause an increased secretion of serum.

II. An effusion of coagulable lymph and adhesions.

III. An increase in its power of absorption, by which, in certain cases, the contents of the cyst pass from the peritoneum into the circulation.

I. *Ascites.*

Ovarian tumors generally determine an increased secretion of serum, and in some cases the amount is sufficiently considerable to obscure the diagnosis of the principal disease, and to deserve the name of ascites. If we were to judge of the frequency of this complication by the number of times it is noted in our friend Dr. Atlee's excellent table of 170 cases of ovariotomy, we should consider it rare, as it is only noted in eight instances; but without believing with Portal, that ovarian tumors are always accompanied by ascites, we cannot admit the infrequency of the complication, as shown by the table. We believe that in many cases the circumstance has not been noted, or that the ascetic effusion has been considered normal: besides this, some operators have considered this complication as portraying a state of the peritoneum unfavourable for the operation, and therefore have refused to operate when they could detect ascites. It is scarcely necessary again to state that we do not admit that the ascitic effusion comes from the cyst itself; and we think that, in giving it this origin, our friend Professor Bennett has drawn a general conclusion from too small a number of facts.

II. *Peritonitis—Adhesions.*

Partial peritonitis, and consequent adhesions, are of very frequent occurrence, although a better knowledge of ovarian disease permits us to consider as exaggerated Dr. Seymour's assertion, that adhesions exist, in 99 cases out of 100, however much this opinion may be supported by that of Dr. Clay, who says that "he has never yet seen a case entirely free from them" (Med. Times, vii. No 162).

In the table already referred to we find that—

Adhesions existed in	. . 62	cases
„ did not exist in	41	„
„ are not mentioned in	 76	„

And we shall soon see how important is their diagnosis for the success of ovariotomy.

Their extent is variable, from slight filaments scattered here and there, to the complete adhesion of the cyst to that surrounds it. They may be soft, and easily broken down with the finger, or dense and grating under the scalpel. They are evidently produced by inflammation; but sometimes this is of so mild a nature that their growth has not been accompanied by the slightest pain, while often no trace of adhesions can be found in those points which have been the seat of tenderness for years. Dr. Clay thinks that tapping produces adhesions; but Drs. Atlee, F. Bird, and others, have not found this to be the case; and we lately made the post-mortem examination of a large ovarian cyst which had been tapped eighteen times, the last time only a few weeks before death, without finding the slightest adhesion. Dr. Ramsbotham is of opinion that adhesions may bring on a favourable termination of the disease by binding down the cyst, and thus preventing its further growth; but this is not proved by any examination postmortem, and can only have taken place in some very exceptional cases.

III. *Effusion of the contents of the cyst into the peritoneum.*

Some justly esteemed authors assert that, in the cases reported as cured after effusion into the peritoneum, the fluid was not effused in that cavity at all. Drs. Ramsbotham and J. Jeafferson do not even admit that the contents of the cyst were effused into the peritoneum, and affirm that, in the cases cited by Blundell and Abernethy, the rupture probably took place in the bladder or uterus, on account of the difficulty of supposing that the escape of the contents of the cyst into the abdomen should be followed by immediate absorption and an increased flow of urine into the bladder. Several post-mortem examinations have, however, shown the incorrectness of this explanation; and if we so easily admit the extraordinary secreting power of the peritoneum, why should we be surprised that at times its powers of absorption should be equally great?

Other authors, in admitting the occurrence of effusion into the peritoneum, consider it generally fatal. Thus Dr. Copland says, "when the effusion finds its way into the peritoneum it is, in my opinion, generally fatal, although some authors contend that the fluid may be absorbed from this situation, and the patient recover." Sir Philip Crampton is so much afraid of the fluid of the cyst passing into the peritoneum, that he recommends the operation to be performed with a long curved trocar; and, participating in the same dread, Dr. Bright says—"When paracentesis is performed I recommend as much fluid as possible to be withdrawn, because I dread above every other danger that of a portion of the fluid escaping into the peritoneum." The only allusion which Mr. S. Lee makes to this termination is, that sometimes, by the bursting of the sac, the peritoneum becomes inflamed;" and, in accordance with these views, Dr. Seymour speaks of this termination as one "very difficult to understand, being contrary to all experience in all other disorders."

In France the same opinion is entertained of the danger of this termination. Mme. Boivin states that "the effusion into the peritoneum, generally speaking, occasions fatal peritonitis;" and, "in certain circumstances," (says Caseau) "the patient has been able to bear up against such an accident."

Valleix only alludes to the rupture of ovarian cysts as to one of the fatal terminations of the disease. (Guide du Médecin Praticien, vol. viii.)

"In one of the late meetings of the Société Médico-pratique of Paris, a case of encysted ovarian tumor, of several years' standing, was brought forward, which disappeared in a few days, after very considerable micturition. M. Dobigny, who attended the lady (of middle age), asked the Society for the solution of the problem, whether the cyst opened into the bladder, or was merely effused into the peritoneum, absorbed, and carried off by the kidneys. We do not find that any of the members present gave an explanation of the phenomena."

In his thirty-eighth letter, Morgagni relates a case of rupture of an ovarian cyst from a violent fit of laughter. The woman heard something crack within her, the abdomen became soft, fluctuation was manifest in the lower part of this cavity, and the flow of urine became very copious; but in a fortnight the cyst was refilled. Morgagni alludes to similar cases recorded by Schacher and Guterman;, and a remarkable case has been published by Mr. Stephen Lowndes (Memoirs of the Medical Society of London, vol. iii.):—"The patient had been ill for three years, with, at first, pains in the bowels, then swelling of the abdomen, till at last she had attained the size of a pregnant woman on the eve of confinement. Riding in an open chaise, she was thrown out by accident, and fell on her face. At this time she felt an acute pain across the belly. This went off instantly, and she perceived no injury from the fall. The fourth day after the accident she began to make water oftener than customary, and in larger quantity; this frequent call continued three days, and the water evacuated during those three days was computed at eighteen quarts. From this time the swelling began to abate, and continued to do so until the fourth day, when it entirely ceased. This discharge made the patient feel very weak and faint, and remain so for several days. A year after, the patient was well; she had not the least remains of her enlarged belly, and menstruated regularly."

Among other reflections on this case, Mr. Lowndes says that "the suddenness of the cure, after the violent concussion of the viscera experienced from the patient's fall, induces me to believe that, previous to this accident, the contents of the tumor were confined in a cyst void of all absorbents, and on that being ruptured, the water was dispersed among the intestines, and readily imbibed by those vessels and conveyed to the kidneys."

Dr. Blundell (Lectures on Midwifery, London, 1832) is one of the first of modern accoucheurs who have called attention to cases of this description. "I have already referred," says Dr. Blundell, "to a lady who was cured of her ovarian dropsy, by falling from her carriage on a heap of stones, and rupturing the cyst; and a practitioner of New York, known to my friend Mr. Gaitskill, attended a woman who fell, while labouring under ovarian dropsy, and ruptured the cyst, recovering from her dropsy, at least for a time. Several other cases of spontaneous cure might be mentioned. Now it does not seem impossible that the ovarian cyst, if very thin, might be ruptured from pressure, however applied; though to suggest the manner how is no easy task."

Drs. Seymour and Ingleby admitted the possibility of this occurrence being sometimes followed by cure.

In 1834, Olesius (Conc. de Hydrope ovariorum profluente) drew particular attention to the subject. In England it was further elucidated by Dr. Bright (Guy's Hospital Reports), while in France Dr. Camus published an interesting paper on the subject (Rèvue Méd. Nov. 1844). To conclude our historical sketch, we must also state that the author noticed the subject at considerable length in his papers on the treatment of ovarian dropsy (Lancet, 1848), and that Dr. Crisp has related some interesting cases (Lond. Med. Ex. 1850). We will now throw into a tabular form the cases with which we are acquainted, and after offering some remarks, give those cases which more particularly illustrate the varied phenomena of this termination:—

TABLE[*] of 71 Cases of Rupture of Ovarian Cysts, with Effusion of their Contents into the Peritoneum.

CASES CURED—30.

Number of Cases and Names of Observers.	Indications.	Remarks.
1 Dr. Locock	LOND. MED. GAZ., Ap. 1847.	Repeated ruptures; stuff like green pea soup withdrawn by puncture: case proved by a post-mortem examination.
1 Mr. W. Hey, of Leeds	Clay's Obstetric Jour., p. 39.	Repeated ruptures.
1 Dr. Percival	Med. Essays, vol. i.	Rupture caused by an emetic.
1 Dr. Blundell	Lect. on Mid., 1832	Mode of cure proved by post-mortem examination.
1 Mr. Headland	Lancet, June 22, 1844	Rupture during labour.
1 Dr. Peddie	Med. Times, Feb. 24, 1840.	Do.
1 Dr. White	Buffalo Med. Jour., Dec. 1845	Rupture from fall.
1 Dr. R. S. Kissam	New Eng. Jour., vol. v. 1816	Patient tapped, to remove bloody serum, six weeks after rupture of the cyst.
1 Dr. L. Spalding	New Eng. Jour., vol. v. 1816	Patient died, some years after, from cancer of the womb.
1 Lebert	Phys. Pathologique, tom. ii. p. 71	Peritonitis.
1 Bonfils	Rap. de A. Bérard, Mém. de l'Acad. de Méd.	Definitively cured after repeated ruptures.
1 Dr. A. Laennec	Rev. Med., vol. iv. 1828	Profuse salivation.
1 Frorieps	Notabilis Weiman. 1836	Fall down stairs; peritonitis.
1 Paetsch	Berlin, 1835	Effusion from paracentesis.
1 Olasius	(de Hydope ovariorum profluente)	
1 Dr. Reiguier		
1 Prof. Cav. Massoni, of Florence	Unpublished case	
2 Dobigny	Mém. de la Soc. Méd. Prat. de Paris	
1 Dr. H. Bennet	Unpublished case	
1 Dr. Beaumont, of Gravesend	Case given to Dr. Bright, Guy's Hosp. Rep. vol. iii.	
4 Prof. Recamier	Unpublished cases.	
1 Mr. Step. Lowndes	Mem. Med. Soc. of Lond. vol. iii.	
1 Mr. Lane	Unpublished	
1 Mr. Brown	Do.	Severe peritonitis; radical cure proved by a post-mortem examination ten years after this attack.
1 Mr. Brown	Do.	Peritonitis, and passage of pus by the intestines; the cyst remains collapsed, and the patient is well.
1 The Author	Do.	From a fall down stairs; cured without peritonitis.
30		

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[*] It would be highly interesting to ascertain the result of a similar accident to cysts of other

CASES RELIEVED—19.

Number of Cases and Names of Observers.	Indications.	Remarks.
1 Morgagni . . .	Epist. 38, 69	Rupture from a violent fit of laughter.
1 Mauriceau . . .	Treatise of Accouchment, vol. ii.	Repeated rupture of cyst.
1 Baron Boyer . .	Vol. viii. p. 432	No peritonitis; cyst remained collapsed for 3½ years.
1 Sir Astley Cooper	Surgical Works	Returned after seven years.
1 Delpech . . .	Chirurgie Clinique	Repeated rupture of cyst.
1 Dr. M. Duncan, of Colchester .	Unpublished	Refilling for the third time.
1 Dr. Addison . .	19th case in Dr. Bright's paper, Guy's Hosp. Rep., vol. iii.	Peritonitis relieved for five years; malignant cyst.
1 Dr. Bright . .	Guy's Hosp. Rep., vol. iii. (18th case)	
1 M. Eager . . .	Lancet, Feb. 1846	Returned after several years.
1 Dr. Begbie . . .	Lancet, 1849	Rupture during pregnancy.
1 Dr. Nathan Smith	Lond. Med. Phys. Jour., 1822, p. 281	
1 Mr. Gaitskill's friend . . .	Blundell's Lectures . . .	
1 Prof. Recamier .	Case given by author . . .	Fluid effused by subcutaneous section of the cyst.
1 Dr. Bluff . . .	Jour. de l'Expérience, No. 28	
1 Camus	Rev. Méd. 1844	Ruptured three times.
1 Dr. Simpson . .	Unpublished	Repeated rupture of cyst.
1 Dr. Moir . . .	Do.	
1 Mr. Woolley . .	Do.	
1 Mr. Lane . . .	Do.	
— 19		[FATAL CASES, *next page*.

This table evidently shows that the effusion of an ovarian cyst has erroneously been considered to be *generally fatal*. It was fatal in twenty-two cases, but it afforded relief to nineteen patients, and it appears that it cured thirty. Admitting, however, that of those reported as cured, many were only relieved for a longer or shorter space of time, and that at the end of a few years the cyst again refilled, it will still remain proved that fifty patients out of the seventy-two not only bore with impunity this accident, but derived great benefit from its occurrence. That some were radically cured will appear certain from the post-mortem inspection of the collapsed cysts, as we shall soon relate. Our table also shows that when the effusion is fatal, the fluid effused is sanguineous, or curd-like, or of a red-brown colour, or, again, a solid jelly. It is never marked as a diaphanous albuminous fluid, because, when such is the nature of the fluid, the peritoneum absorbs it; in which case the patient is relieved or cured. We have heard of a case wherein the patient bore with impunity the repeated passage of stuff resembling green pea soup into the abdo[illegible] we do not remember one [illegible] caused by the effu-

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viscera. We have collected the few cases we have met with in our investigations of ovarian pathology.

RESULTS OF THE RUPTURE OF CYSTS OF THE LIVER AND SPLEEN.

Successful Cases.	
Dr. Bright (Guy's Hosp. Rep.) . . .	1
Annales de Montpellier, vol. xii. . .	1
	— 2

Fatal Cases.	
Lassus (Pathologie Chirurgicale) . .	1
Roux	1
Annesley	1
Dr. Bright (Guy's Hosp. Rep.) . . .	1
Dr. Bright, cyst of the spleen . . .	1
Gendrin	1
	— 6

Without attaching too much importance to this imperfect table, we are convinced that in such cases death is the rule, and that recovery is very exceptional. As bearing on the same point, we may also observe that there is a case recorded (Med. Times, Nov. 4, 1848) of a voluminous hydrocele bursting into the abdomen without giving rise to any dangerous symptoms.

FATAL CASES—22.

Number of Cases and Names of Observers.	Indications.	Remarks.
1 Morgagni . . .	Epist. 38	Steatomatous cyst of a Fallopian tube.
1 Wepfer	Morgagni, Epist. 38 . . .	Contents not mentioned.
1 Dr. Bright . . .	(21st case) Guy's Hosp. Rep. vol. iii.	Peritonitis; a brown-red fluid from a multilocular cyst.
1 Dr. Bright . . .	Guy's Hosp. Rep. vol. iii. .	Cyst very thin; ropy fluid in abdomen.
2 Dr. Seymour* .	On Diseases of the Ovaries .	Nature of contents unmentioned.
1 Dr. Sanson . .	Phy. Trans., No. 140 . . .	Enormous hydatid cysts.
1 A. W. Danville .	Lond. Med. Gaz. vol. ii., 1842	The fluid contained innumerable fatty bodies like mustard seeds; no trace of inflammation.
1 Dr. Herapath, of Bristol . . .	Edin. Med. and Surg. Jour., Jan. 1849	Steatomatous substances, with hair.
1 Russell	Prov. Med. and Surg. Jour., Feb. 1848	Rupture of Fallopian cyst.
1 Mr. Pollard . .	Lancet, March 1848 . . .	Hæmorrhage from small ruptured ovarian cysts by vomiting.
1 Dr. Crisp . . .	Lond. Med. Ex., No. II. .	A dark-coloured fluid from a small cyst.
1 Mr. Hardy, of Hull	Lancet, April 1845 . . .	Hair and curd-like stuff in the abdomen.
1 Dr. Hamilton . .	His Works	Rupture from coughing, and sudden death.
1 Dr. Simpson . .	Discussion on Ovariotomy, in the Royal Med. and Surg. Soc. of Edin., Cormack's Journal, vol. vi. .	Contents not mentioned; but its parietes are said to have been deeply ulcerated internally.
1 Delpech . . .	Chirurgie Clinique	Repeated punctures to remove the liquid effused from the cyst.
1 Mme. Boivin . .	Diseases of the Uterus . .	Red-brown contents.
1 Goyrand . . .	Traité de Pathologie, de Vidal de Cassis, tom. iv. p. 580	The tumor caused death by intestinal obstruction.
1 Tavignot . . .	Jour. de l'Expérience . . .	
1 Sager	Meissner's Treatise on Diseases of Women . . .	Fluid, mingled with cheesy substances, from a Fallopian cyst.
1 Carlo Sacchi . .	In Omodei Annali Universali di Medicina, vol. lxiii. . .	Rupture of multilocular cyst.
1 Carlo Sacchi . .	Do.	Cyst contained solid jelly.
22		

sion into the peritoneum of the bland albuminous fluid which generally fills ovarian cysts.

As this termination of ovarian disease is little understood, we shall point out its immediate causes, and exemplify its consequences. It is generally determined by a fall on the abdomen, or by a violent fit of coughing, sneezing, vomiting, or laughter; and has been known to occur in the midst of a paroxysm of anger. It is most frequently preceded by a sudden crack, both felt and heard by the patient, accompanied by weakness and fainting, sensations of internal sinking, as if from concussion of the semi-lunar ganglia and solar plexuses, which may sometimes last from an hour to half a day, with pain in the abdomen, but often without peritonitis, as in the case subjoined.

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* Dr. Seymour mentions three fatal cases; but we have omitted the third in our table, because it was ruptured by the surgeon in his endeavours to return an ovarian tumor adherent to the upper part of the vagina, and which pressed on the rectum. It was a cancerous tumor, and the fluid effused into the peritoneum is described as "soft matter, not very dissimilar to the substance of the brain."

Case communicated to Dr. Bright by Mr. Beaumont, of Gravesend (Guy's Hospital Reports):—"A woman labouring under ovarian dropsy for several years, was very large, and I had thought of tapping her, when she fell from some high steps, in brushing the ceiling of a lofty room, and burst the sac. The immediate effect was fainting, from which she soon recovered. Two days after I found her without pain, but feeble; and my attention was directed to the *quantity of water she had passed.* I was shown three large chamber-pots full of urine(?), which I was told she had passed in twenty-four hours: this increased quantity continued four or five days afterwards. I ordered a bandage to the abdomen, and in a week or ten days she resumed her duty. Six or seven months afterwards I lost sight of her, but to-day I learn that she never filled again, but became thinner and thinner, and died in London two years after. Complaint unknown."

It may, however, occur when the patient is quietly in bed, as in the case related by Baron Boyer of a lady, who one night was awoke several times by an urgent want to pass water, which repeated want lasted for several days.

The symptoms attending this accident are well marked in the following case given by Olesius, (Conc. de Hydrope ovariorum profluente, 1834):—"A woman labouring under ovarian dropsy made a sudden effort, and heard a sound in the belly, as of boiling water; previous to this the swelling had been confined to one side of the abdomen, but afterwards the belly was uniformly distended. The contents of the cyst were completely absorbed, and the patient was radically cured."

Peritonitis occurred in only five of the thirty cases reported as cured, and of the twenty partially cured, and these required its usual treatment. In most of the thirty cases the water passed by the patient in the following day is noted as considerable; (eight quarts in three following days in the case of Mr. Lowndes).

In three of the successful cases the manner of the cure was proved by a post-mortem examination. In one of Professor Recamier's cases the patient was supposed to be suffering from an extra-uterine tumor, which was thought to have ruptured. Thirty years after this accident, on making a post-mortem examination, no bone, or any trace of conception, was found; but the contracted sac of an ovarian cyst was still clearly discernible.

In one of Mr. Brown's cases the patient had been attended by Dr. Henry Davies for severe peritonitis arising from the rupture of an ovarian cyst. Ten years after, on making the post-mortem examination, a collapsed cyst was found, twice as large as the palm of the hand, with walls half an inch thick, of a cartilaginous and almost ossific character, and still presenting a rent, with the lining surface corrugated. This patient had never suffered from the collapsed cyst since its rupture.

We give the following case entire, as some may doubt the propriety of its being placed among the *successful cases*, and because it was given me by a distinguished obstetrician practising in Florence, Cavaliere Mazzoni.

Case of Internal Rupture of the Ovarian Cyst.

Testaferrata, a dress-maker, ætat. 50, was troubled by chronic inflammation of the womb when menstruation ceased. She underwent the usual treatment, and no disturbance of the genital organs was then apparent; but, about a year after, she complained of a dull pain in the left side, in the fossa iliaca, accompanied by a slight but hard swelling in the same region, which was taken for an ovarian cyst. For several months iodine and mercury were administered without success, for the tumor went on increasing. The digestive and respiratory functions became seriously disturbed, and it was judged necessary to alleviate the patient's suffering by paracentesis. With a good sized trocar she was therefore tapped in the linea alba, and 30 lbs. of clear serous fluid were withdrawn. It was easy to feel the solid basis of the cyst springing from the left side, which I considered to be the indurated ovary. A carefully-adapted pressure was made on the abdomen, and I returned to the use of resolutives and diuretics, but with no avail, for the cyst re filled. I was already asking myself if it were not advisable to have again recourse to tapping, when, while making an effort to get out of bed, the patient felt something burst within her. The pain was but slight; though, naturally feeling alarmed, she sent for me; and, on examining her, I found, instead of the hard well-circumscribed cyst, the abdomen had become flaccid, and contained a fluid. Abdominal pressure, diuretics, fomentations to the abdomen, with compound tincture of iodine and squills, brought about in a month the resorption of the liquid effused in the abdomen. The patient was then able to resume her duties, and did so for four months, when she caught cold, and had a return of an inflammation of the colon, with which she had long before been affected: there also came on symptoms of chronic peritonitis and general debility, when death put an end to her sufferings.

At the post-mortem examination I found a considerable quantity of reddish serosity in the abdominal cavity. The mucous membrane of the colon was inflamed; and, on examination, I found that the cyst sprung from the right ovary, which was about the size of a large apple. In the walls of the contracted cyst two cicatrices were visible,—one round and regular, the result of paracentesis; the other rough-edged and irregular, resulting from the spontaneous rupture of the cyst.

ADULTERATION OF JALAP AND RHUBARB.

Jalap, in the root, is abundant and of good quality, and, when mixed with bryony and other roots, is easily distinguished; in powder, it is largely adulterated, mostly with the spurious or false jalap roots, or, as it has been ascertained, with *liquorice root*. In several samples purchased from respectable drug-houses in New York, by some of the physicians in Virginia, the odour and taste of the liquorice were very perceptible, and treble the usual quantity was required to produce catharsis.

Rhubarb.—Excellent samples, both of Turkey and East India Rhubarb, may be found in most of our drug shops; but, in powder, it is greatly adulterated. Either the mouldy and spoiled pieces in good lots are picked out for the purpose, or the English is ground with small portions of the better quality,—or else alone, and coloured with turmeric, to give it the proper hue.—*Boston Medical Journal*.

REPORT UPON THE MORTALITY AT ST. GEORGE'S HOSPITAL.

By Dr. Barclay,
Medical Registrar to the Hospital.

The subject of the ratio of mortality in the London hospitals having been brought so much before the notice of the medical world, may be considered a sufficient reason for a more detailed report of the mortality at one hospital being given by one of its registrars.

It is almost unnecessary to allude to the fallacy contained in Dr. Webster's paper, read before the London Medical Society, which has been already pointed out in various quarters; but it ought to be borne in mind that the number of beds actually occupied in a hospital, when considered with relation to the number of cases admitted in the course of the year, is by no means to be overlooked, but forms a very important item in any calculation which may be made of the relative mortality. It may be taken as an index, within certain limits, of the general proportion of hospital accommodation to the applicants for relief, and in some measure, therefore, of the severity of the cases admitted; and this for two reasons: first, convalescents are discharged at an earlier period when the wards are much crowded and the applicants numerous, than would be considered right when there are plenty of vacant beds; second, while the average stay of all patients taken together, in St. George's Hospital, is from four and a half to five weeks, the average duration of fatal cases is only about eighteen days.

In small hospitals this circumstance must frequently exercise a very important influence over the rate of mortality, when its effects are felt even at a hospital of the size of St. George's. An admission-day scarcely ever passes there on which several applicants are not made out-patients, although reported proper for admission by the medical officer in attendance, simply because of the disproportion of accommodation to those seeking relief. When selection becomes necessary, the physician or surgeon will recommend for admission especially those severe and acute cases among which the mortality is greatest. It is true that among those rejected will also be found a few hopeless and incurable cases, which the rules of the hospital authorise the board in rejecting; but their number is very small. Phthisical patients are, in the majority of cases, capable of receiving benefit to some extent by admission, while persons with malignant or cancerous diseases must generally be admitted, and observed for some short time, in order to establish a correct diagnosis; and it consequently happens that the majority of such cases are admitted, and tend to swell the fatal list. Supposing the average number of applicants on an admission-day set at 60, it is not improbable that 4 of these will prove fatal; and if the whole number be admitted, the rate of mortality will be only 6·66 per cent.: but if, as commonly happens, 10, or it may be 20, of them are made out-patients, and only admitted in the event of more urgent symptoms arising, while all the severe and probably fatal cases are admitted on the first day, the mortality will rise to 8 or 10 per cent.

Undoubtedly the principle advocated in the MEDICAL GAZETTE of the 4th instant approaches much more nearly to the truth than that proposed by Dr. Webster; and taking a series of years (perhaps ten or fifteen), and calculating the mortality for all the London hospitals together, it would form a sound basis of comparison with the average mortality in the Paris or Vienna hospitals; but in its most modified form, it appears to me that it cannot be applied with any degree of certainty to a number of hospitals taken singly, by way of comparison. In that article it was shown how the epidemic of cholera affected some of the hospitals; and it may be here stated that, in consequence of a regulation of the Board of St. George's, none but the very worst cases were latterly admitted; so that although the epidemic was not so virulent in that neighbourhood, yet out of 24 cases there were 15 deaths. Similarly, I find in 1848, an epidemic of fever which caused 21 deaths in 8 months, dating from the commencement of my duties in May; while in the whole of the following year there were only 8 deaths from the same cause.

In consequence of some oversight, the average for the four years 1846, 7, 8, and 9, was incorrectly stated in that article;* the actual numbers are as follows:—

	Patients.	Deaths.
1846 . . .	3375 . . .	272
1847 . . .	3265 . . .	263
1848 . . .	3334 . . .	267
1849 . . .	3221 . . .	264

Average of patients . . 3299
Average of deaths . . 266
Per centage of mortality . 8·06

But besides the circumstances already mentioned, there are many others of great importance, which so modify the rate of mortality as to render such general statements almost valueless; and in order to exhibit a few of the more important of these, I will enter on a short analysis of the year 1849. Similar facts might be ascertained for any of the preceding years, and averages might be struck; but in the meantime it does not seem desirable to expend much labour on that of which, after all, the value is more than questionable. I have chosen the year 1849 as one with the details of which my duties have rendered me familiar, selecting it in preference to the year just past, both because many of the cases are not yet concluded, and also because extensive alterations have caused for some months several of the wards to be entirely closed.

The regular number of beds, until last year, is correctly represented to be 317; but extra beds are sometimes put up in each of the wards; and, so far as I have been able to ascertain, the largest number of patients remaining in the hospital on any one day in that year was 329. Again, during the summer months, the wards were closed in succession for the purpose of cleaning and whitewashing, so as to reduce the number of patients on one day to 246. Besides this, beds are reserved for accidents; so that, taking all things into consideration, the average number of

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* The oversight alleged to exist does not lie with us. The numbers furnished from St. George's, upon most respectable authority, were as follows:—

	Patients.	Deaths.	
1846.........	3640.........	272	
1847.......	.3556.........	263	
1848.........	3643.........	267	
1849.........	3536.........	264	
Total......	14745......	1066	Deaths per cent.
Annual av.	3588.........	266.........	7·4

These are the numbers given in the number referred to, at page 19 of the present volume. At the same time Dr. Barclay has no doubt good grounds for making the correction.—ED.

patients cannot have exceeded 300 per day. The 317 beds are allotted as follows:—

Physicians' male patients .	58
Do. female do. .	58
Total .	116
Surgeons' male patients .	118
Do. female do. .	83
Total .	201

There were in that year admitted 3221 patients, of which I find I have recorded 1398 as physicians' patients, without including those that were occasionally transferred from the surgeons; and consequently 1823 will remain as surgeons' patients. This statement is liable to some slight error, because the cases are not kept separately in the register, but it is a very close approximation. During the same period the deaths among physicians' patients amounted to 151, while among surgeons' patients they were only 113; and although I think the cholera cases might fairly be deducted, as the relative number of deaths was more dissimilar in that year than usual, yet there is always an excess of admissions in the one class, and an excess of deaths in the other. The numbers just stated would give a mortality of 10·8 per cent. of medical cases, and only 6·2 per cent. of surgical cases; and while this may be due in some measure to the larger number of beds allotted to the one class than to the other, yet it is not improbable that surgical diseases are really less generally fatal than medical ones: at all events the fact is an important one.

Assuming that the average number of occupied beds was 300, the numbers 110 and 190 will pretty nearly represent those devoted to the two classes of patients; and a simple calculation will show, that while the average duration of medical cases is scarcely 29 days, that of surgical cases exceeds 37 days. This fact, taken in connection with those already mentioned, may be brought forward as proof in some measure of the necessity already pointed out, of taking into consideration the average number of patients per day in the hospital, in conjunction with the whole number of cases admitted in the course of the year.

Another point of great importance in this consideration, is the relative mortality of those cases admitted as accidents, or cases of urgency, which cannot be postponed till the regular day of admission. It was very well shown in the MEDICAL GAZETTE of the 11th inst., from the returns of two large metropolitan hospitals, that the practice with reference to the selection of such cases as are considered proper for admission into the hospital, must vary very much at different institutions. In St. George's I believe no case is admitted which can be treated as an out-patient; and it frequently happens, that for want of room, cases must be so treated, until symptoms of such urgency arise, that some convalescent or chronic case is sent out to make room for one whose life is in danger, and who is now perhaps only admitted to die in the wards. On the other hand, no person suffering under any acute disease, or who seems in imminent danger, is ever sent away, although applying on an irregular day to be admitted as physicians' in-patient. The number in the surgeons' in-patient accident book for 1849, which includes all patients admitted under the surgeons for any reason whatsoever, during the interval between two admission days, is 966, or more than half of the surgeons' patients for the whole year. During the same period there were 346 cases of urgency admitted under the physicians, or nearly one-fourth of the medical cases for the year; but it ought to be stated that these numbers include a few patients sent from the country under some mistake as to the day of admission, who are always received if it be possible in any way to admit them.

Among the surgeons' accidents 77 cases terminated fatally, giving an average mortality of 7·97, or, as it may be called, 8 per cent., while the physicians' cases give an average of 13·3 per cent. from 46 deaths in the course of the year. These numbers are both considerably higher than the general averages, and must of course differ still more widely from those of cases admitted into the hospital on the regular admission day only. Among them the mortality among surgeons' patients is 4·2 per cent.; among physicians' patients, within a fraction of 10 per cent.

Such and so varied are the considerations which must be taken into account in making an estimate of the relative mortality; and even supposing it possible that any two hospitals could furnish similar and more extended details for a succession of years, it would still be found that in each of these particulars they differed so greatly, that correct inferences, however valuable in a sanitary point of view, could not be drawn from them. All the rules and customs of each hospital, with regard to the reception and distribution of particular classes of patients through the house, exercise an important influence; and it not only becomes necessary to know how many beds are allotted to each, but also the relative demand for accommodation; and when that is limited, the principles on which a selection is made;—whether consumptive and incurable cases are admitted or rejected; and what the amount of injury constituting an accident requiring to be immediately admitted;—whether distinct wards are assigned to particular diseases, such as cancer or syphilis; the one being a disease eminently incurable, the other almost never terminating fatally. At St. George's, syphilitic cases are rarely received; but it must be evident that where foul wards exist, a considerable number of patients labouring under such a disease must lower the average rate of mortality. Similarly, if very large provision be made for the admission of accidents, in assigning several wards to such a purpose alone, more trivial cases will be sent to bed, than where the resident medical officer knows that he will have need of all his beds, and more too if he could find them, before the week is out, and again the proportion of deaths in the course of the year will be diminished.

Bearing in mind the influence of these several circumstances, let us again review the facts which have been ascertained with reference to the mortality at St. George's; bearing in mind also that the only distinction there, is between medical and surgical wards, and that although one ward may be denominated an accident ward, it neither implies that *all* accidents shall be sent there, nor that *all* the beds shall be reserved for accidents, nor that when *all* the beds there are full, no more accidents shall be admitted, but merely as matter of convenience in the economy of the hospital, that the majority of such cases should be sent to that particular ward. We have ascertained the following particulars:—

Average of patients for four years	3299
Average of deaths	266
Per cent.	8·06
Physicians' beds	116
Surgeons' beds	201
Total	317

1849.

Total number of cases	3221
Total deaths	264
Per cent.	8·2
Average of physicians' beds	110
Average of surgeons' do.	190
Total average,	300
Physicians' patients	1398
Deaths	151
Per cent.	10·8
Surgeons' patients	1823
Deaths	113
Per cent.	6·2
	Days.
Average duration of physicians' cases	28·7
Do. of surgeons' do.	37·4

Cases admitted by the Weekly Board.

Physicians' patients	1052
Deaths	105
Per cent.	9·9
Surgeons' patients	857
Deaths	36
Per cent.	4·2

Accidents and Urgent Cases.

Physicians' patients	346
Deaths	46
Per cent.	13·3
Surgeons' patients	966
Deaths	77
Per cent.	7·9

Such different results must spring from a variety of causes; and it will not be easy to assign to each its particular effect;—still less easy will it be to ascertain the particular influence of all the causes which must be in operation, to determine the differences already ascertained to exist, among the several metropolitan hospitals.

MEDICAL GAZETTE.

· FRIDAY, JANUARY 31, 1851.

We have great pleasure in giving insertion to a letter from Mr. Robertson, explanatory of his evidence in a case of Rape, on which we lately made some comments.* It is clear, from Mr. Robertson's statement, that his evidence has been mis-reported, and that the magistrate was not justified in assigning the necessary committal of the prisoner to the corroboration afforded by the evidence of the surgeon. In fact, this evidence did not lend the least support to the charge, although the magistrate appears to have viewed it in this light. When the surgeon had stated that there were no bruises or other marks of violence on the person of the prosecutrix, at the time of the examination—that the hymen might have been ruptured *two years* previously—that the small scratch found on the left labium externum might have been self-inflicted—and that the blood on the shift might have been menstrual, as the girl was menstruating at the time of examination—there was not the slightest medical evidence to support the charge of rape alleged to have been perpetrated with force and violence and in spite of the girl's resistance, five days before.

The mind of the magistrate was, however, apparently less influenced by these *facts* than by the subsequent admission made by Mr. Robertson, that the "*act* had undoubtedly been effected." With every charitable consideration for the difficult position of a medical witness in such a case, there appears to us to have been a want of explicitness in this admission. It is true the witness stated that "*at what time*, whether within *five days* or *two years* previously," he had no means of forming an opinion; but the legal mind of the magistrate immediately adopted the conclusion which such a statement at once laid open to him—namely, that the act might have been perpetrated at the time alleged by the prosecutrix, *i. e.*, within *five days*. We should have thought that the state of the hymen would have enabled the witness to have determined whether its rupture had taken place so recently as this, or at a much more remote period; and failing the evidence derived from the supposed *recent* rupture of this membrane, there was *no medical proof* whatever of recent intercourse, and still less of intercourse effected by violence.

With regard to the microscopical evidence, showing the presence of alleged seminal stains on the linen of the prosecutrix, we shall remark that such evidence should only be received from one well-used to this branch of microscopical research; and even when clearly established, the *date* of the intercourse cannot be fixed. Some serious mistakes have been already made: the fibres of linen have been mistaken for the broken tails of zoosperms; and a medical witness not accustomed to this species of research cannot be too distrustful of his judgment. For the information of medical witnesses, and for the instruction of lawyers engaged to defend persons charged with rape, and bound by their duty to sift medical evidence where it passes into refinements of this kind, we quote the following passage from the work of one of the greatest microscopists of the day. DONNÉ remarks:—

"Rappelons nous d'abord que les caractères microscopiques, c'est-à-dire les caractères propres aux animalcules spermatiques, sont les seules qui distinguent d'une manière certaine la liqueur séminale. Tout ce que l'on a dit de la coloration que prennent les taches exposées à la chaleur, ne mérite aucune confiance et doit être relégué avec les caractères tirés de l'odeur des différentes espèces de sang, traitées par l'acide sulfurique pour reconnaître les taches sanguines : de pareils moyens d'analyse employés dans les circonstances criminelles les plus graves doivent être à jamais repoussés comme éminemment dangereux. Le zoosperme seul caractérise donc le fluide séminal. Eh bien! si l'on parvient, comme l'a dit le Docteur Bayard, à détacher par des macérations dans l'eau tiède, les animalcules du linge et des étoffes où ils sont desséchés, à les obtenir avec leurs formes caractéristiques appréciables au microscope —rien de mieux ; mais en dehors de ce procédé nous ne connaissons aucun moyen d'affirmer que telle substance est du sperme, et encore faut il apporter la plus grande attention lorsqu'il s'agit de taches desséchées pour se garantir des erreurs resultant du mélange de la liqueur avec les filaments déliés provenant des étoffes. Pour moi, *je n'ai jamais réussi* a détacher les zoospermes desséchés sur le linge de manière à me faire *une conviction complète* par l'inspection microscopique."*

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* See p. 215; also MEDICAL GAZETTE, Jan. 17, p. 105.

DONNE', with all his skill and practice in the use of the microscope, has never succeeded in procuring this species of evidence except from *recent* and still *humid* stains. It would be hard to persuade a jury that gentlemen who take up this sort of investigation for the first or second time can obtain better success than DONNE'. Such evidence should at least be clear, distinct, satisfactory, and conclusive, or it should be altogether thrown out of consideration.

In concluding our remarks on this case, and on Mr. Robertson's explanatory letter, we shall only observe that he has stated quite enough to show there was *no medical evidence* to prove that the girl had had sexual intercourse, still less forcible intercourse, at the time she charged the accused party with the act. When, in a case of alleged rape, medical evidence shows no more than that intercourse *might have been had at any period within two years* from the date of the examination, it shows nothing with regard to the specific offence; and it is, we conceive, the duty of a medical witness to place this in such plain terms before a magistrate, that he cannot subsequently justify the committal of a prisoner by a reference to it, when the circumstances are of so very doubtful a kind. Unless this rule be followed, hundreds of charges may be preferred, and receive partial support from the negative depositions of medical witnesses, to the great scandal of the law, and the injury of the reputations of innocent persons.

* * *

WE elsewhere* insert an extract from a daily contemporary, which contains an admirably drawn picture of the oppressive effects of the present mode of assessing the Income Tax on the General Practitioners of Medicine. The picture is so true to the life, that, although here served up as an ideal illustration, we doubt not that many of our readers will be able to discover the prototype of Mr. Camomile, either in themselves or among their brother practitioners.

To place an equal amount of taxation on £500 per annum obtained only by hard drudgery, and, as here supposed, often at the cost of health and life, and on £500 per annum derived from realized property in lands and funds,—is an act of the grossest oppression, and indefensible upon every principle of justice. It may be well to call the annual return —*income*, and to tax it under this designation; but we need hardly say that, equitably speaking, this is an abuse of language. The two incomes represent very different values, as their conversion to a real money charge would at once demonstrate; yet, under this Turkish system of taxation, the income entirely dependent on life and health pays as much as that which is based upon fixed property, and is liable to no such contingency.

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* Cours de Microscopie, pp. 303-4.

* Page 218.

We are not surprised at our contemporary looking to the medical profession for an apt illustration of the injustice of the present mode of taxation: its members have, we believe, suffered more from its operation than those of any other profession, and have had it less in their power to make their complaints heard. Nothing but the "*sic volo sic jubeo*" system of legislation could have justified the enactment of such a law, and nothing would have rendered it endurable but for the fact that it was levied only on those classes who were not likely to become agitators against the law. The yoke was to be borne for three years,—it has now been borne for three times that period; and we join our contemporary in expressing a hope that, in the re-enactment of the law during the ensuing session, there will be something like an equitable assessment of this tax. As it stands, it not only operates seriously on present means, but in many cases it cuts off the possibility of resorting to life-insurance for the protection of the widows and children of hard-worked general practitioners.

IN reference to the correspondence which we published last week concerning the appointment of an unqualified person by the Board of Ordnance as Medical Superintendent of the Sick in Cork Harbour, we have to announce that the Cork practitioners have, by reason of their firmness and perseverance, carried their point. The subjoined letter reached us too late for publication in our number of last week:—

"Office of Ordnance, Jan. 16, 1851.

"Sir,—With reference to a letter dated the 21st ultimo, and signed by yourself and Dr. Corbett on behalf of the medical practitioners of the Cork Union, I am commanded by the Master-General of the Ordnance to inform you that, although he can by no means recognise the right of those gentlemen to call upon him for explanations as to the grounds of his official acts, yet that he had deemed it proper to make further inquiries into the case of Mr. Wear; and as it now appears that, notwithstanding the strong testimonials, medical as well as others, by which the pretensions of that gentleman were supported, he does not possess the proper legal qualification to practise, the Master-General has directed me to cancel his appointment to the medical charge of the department at Haulbowline and Spike Islands.

"I have the honour to be, sir,
"Your obedient servant,
"C. PAGET.

"Chas. Armstrong, Esq., M.D."

Whether the right of questioning the official acts of the Board of Ordnance be or be not recognised by the Master-General, or rather by the acting Deputy, Captain Lord Clarence Paget, it will undoubtedly be exerted whenever the acts of the Board or its Deputy are such as to interfere with the rights and privileges of the medical profession. Lord Clarence Paget's letter revoking the appointment contains enough to show that it should never have been made. We must confess our surprise that *medical* testimonials should have been given under the circumstances.

BLACK MEDICAL OFFICERS.

IT appears from the evidence taken on army and ordnance expenditure, that government has had it in contemplation to form a medical staff upon the same principle as that adopted by the East India Company, of educating black men for service on the west coast of Africa, and to be apprenticed to the medical officers serving there. The plan was subsequently abandoned from the circumstance that the young negroes to be educated would cost too large a sum of money before they attained those qualifications befitting them for the appointments of military medical officers. The shrewdness, however, which these men naturally possess, would enable them to reach their acquirements at an early period; and we therefore regret that the measure was not carried into effect.—*United Service Gazette.*

Reviews.

Guy's Hospital Reports. Second series. Vol. vii. Part I. 8vo. pp. 271, with plates. London: Churchill. 1850.

The present is a peculiarly valuable number of this truly useful publication. An enumeration of its contents will justify our highest eulogium, and confirm our opinion that this work reflects the greatest credit upon the teachers at Guy's Hospital, who have, as we have said on previous occasions, set an example to the officers of our other large metropolitan schools, by the zeal and activity which they have displayed in rendering available for the profession at large a great proportion of the information to be gained within the walls of that institution.

The following are the contents of this number:—

1. The Astley Cooper Prize Essay. On the State of the Blood and the Blood-vessels in Inflammation, ascertained by Experiments, Injections, and Observations by the Microscope. By T Wharton Jones, F.R.S.

This Essay undoubtedly constitutes one of the most important contributions to physiology and pathology that has recently appeared.

The questions which the author has immediately set himself to answer are—1. "What the action of the vessels is, and what the manifestations of that action are? 2. What the effect of the action of the vessels is on the flow of blood?" These preliminary questions are followed out by investigations into the state of the vessels in inflammation in the web of the frog's foot; and the information thence obtained is applied to the elucidation of the state of the vessels in inflammation in man. The condition of the blood in inflammation is deduced from the author's and others' observations and analyses of that fluid in health and disease.

The following extracts imperfectly present some of the results of Mr. Jones's investigations, although, taken apart from their context, they must be received with the proviso that, if our readers should meet with any point on which they are inclined to hesitate, they should consult the essay itself for explanation:—

"We have seen that the effect of the direct action of cold on the small arteries of a part is vital contraction of their walls, and constriction of their calibre, and we have also seen that, when all the arteries of a part are constricted, there is a sluggish flow of blood, with great accumulation of red corpuscles in the capillaries and veins, and here and there stagnation. A similar state of the blood and the blood-vessels to that here mentioned is the only possible one which we can conceive as the first step to inflammation of a part of the human body from the direct action of cold on it. The blueish redness of the affected part indicates great accumulation of blood in the venous radicles—a state which, under the circumstances, can be owing only to constriction of the small arteries, whereby *vis a tergo* is diminished, and blood thus allowed to regurgitate into and accumulate in the small veins and capillaries" (p. 54).

"Dilatation of the small arteries we cannot conceive to be, in the case under consideration—or, indeed, in any other—the first step to inflammatory congestion. Supposing that the constriction of the small arteries has given place to dilatation, as might be, even under the continued operation of cold, we have seen that the effect of the dilatation could only be acceleration of the flow of blood. Hence, although the part might be redder than natural, it would not be so red as an inflammation, and certainly not bluish-red, seeing that there would be no accumulation of blood in the venous radicles" (p. 54).

"So far, then, from being the first step to inflammation of a part excited by the direct action of cold, dilatation of the small arteries must be viewed as the first step to reaction and resolution" (p. 55).

"In the vessels of an inflamed part the quantity of red corpuscles of the blood is augmented, and that of the plasma is diminished. That the plasma is inspissated, as regards its fibrinous constituent, may be inferred from the circumstance that the red corpuscles are agglomerated together in a manner similar to that in which we see them in blood out of the body when the plasma is so inspissated. Another ground for inferring that the plasma is inspissated is, that the agglomeration of the red corpuscles takes place under circumstances where it is known that water has been abstracted from the blood in the affected part" (p. 56).

"We have seen that, in the vessels of an inflamed part, colourless corpuscles are accumulated in great quantity. This increase in the quantity of colourless corpuscles, it is to be observed, is more marked in vessels in which the blood is still flowing than in those in which it is stagnant. In the vessels in which the blood is stagnant, indeed, the quantity of *red* corpuscles, as compared with that of the colourless corpuscles, exceeds the normal proportion. The cause of the increased accumulation appears to be simply that the colourless corpuscles are more disposed to adhere to the walls of the vessels; and this is probably owing to the retardation of the flow of blood and the inspissation of the plasma" (p. 58).

The views set forth by Mr. Wharton Jones,—his experiments, injections, and microscopical observations, are most copiously illustrated by nine beautifully executed coloured lithographs, besides numerous wood-cuts.

This Essay must inevitably be *studied* by all who desire a knowledge of the latest *ascertained facts* relating to a morbid process with which all medical practitioners have daily and hourly to deal.

2. The second paper consists of Remarks, by Mr. Bransby Cooper, on the Application of Chemical Analysis, and Microscopic Examination of Morbid Products, to the Formation of a Correct Diagnosis. In these remarks Mr. Cooper candidly admits that it required some efforts to take up entirely new means of diagnosis, at his time of life, after so long and habitual employment of what were formerly regarded as the best and sufficient aids for all *practical* purposes in the investigation of disease.

> "It required a struggle to overcome the *vis inertiæ* of my mind, and the stubbornness of ignorance, before I was induced to examine the minute structures of the various tissues of the human body by the aid of the microscope. I determined, however, to overcome my prejudice, and in a very short period I became impressed with the thorough conviction of the utility of the microscope in pathological investigations."

This utility Mr. Cooper here illustrates from cases that have occurred to himself; adding also proofs of the same kind with regard to the utility of chemical analysis in the formation of a correct diagnosis. The paper is highly interesting to every practical man.

3. The third paper comprises a series of cases presenting serious complications of labour, and accidents of an unusual character, in the department of the diseases of women recorded by Dr. Lever. Among these is a case of aneurism bursting into the pelvis and causing displacement of the bladder, with retention of urine. A case of labour complicated by deformed pelvis, and in which craniotomy was had recourse to; and lastly, a case of retained catamenia.

4. In the fourth essay which this volume contains we meet with a most excellent practical paper on Anæmic Murmurs, by Dr. H. M. Hughes, and which we hope will be attentively studied by many readers. The causes of these sounds are thus stated by Dr. Hughes:—

> "After much consideration, and long attention to the subject, the author is disposed to attribute the anæmic murmur, heard at the origin of the large vessels, mainly, if not entirely, to two causes: first, the watery state of the blood itself, by which the celerity of its motion may be augmented, and its molecules may be more easily passed over each other, and by which, therefore, eddies and waves are more easily produced, and attrition is necessarily increased; secondly, the increased *velocity* with which the blood is propelled through the large arteries arising from the heart—a velocity which is indicated by the peculiarly sharp, thrilling, or wave-like pulse, common in such cases (and so peculiar is it as to be ordinarily recognised as the "hæmorrhagic pulse"), and also by the sharp, smart, and knocking impulse of the heart, continually mistaken by young auscultators for the heaving impulse of hypertrophy, but in reality pointing out only the existence of abnormal irritability of the organ."

The entire investigation of these murmurs, as here expounded by Dr. Hughes, is so practical, and every opinion advanced is so carefully deduced from clinical observation, and exemplified by cases,—as to render this paper deserving of the utmost attention, with reference to the diagnosis of functional from organic disease of the heart.

We notice one slight error of an historical nature. Dr. Hughes, in enumerating the several points in the diagnosis of anæmic murmurs, states that they "may also be confounded with a murmur sometimes heard in the upper part of the left side of the chest, in the immediate vicinity of the pulmonary artery, which murmur has been, by a justly-esteemed physician, regarded, but as the author considers incorrectly, as characteristic of early phthisis." The physician here alluded to is, we need scarcely say, Dr. Latham. The impression upon our mind in reading this passage was, that Dr. Latham did not, in his work on Diseases of the Heart, state it to be his opinion that this phenomenon was a positive or invariable sign of early phthisis; and, on referring to that work, we find at p. 66, vol. i., this sound thus spoken of:—

> "Of such a murmur *often* audible in this situation exclusively, I am certain as a matter of fact, and certain, too, of its very remarkable accompaniments. I have witnessed it in those who were undeniably consumptive, or in those who were too justly suspected of being so. *I cannot say in what proportion of the phthisical it occurs*, but I am continually meeting with it.
>
> "Yet my knowledge goes no farther than the living symptom. . . . . . *Thus, where, from any direct examination of the lungs, I cannot get beyond a suspicion of tubercular disease, the murmur in the space indicated must always contribute to confirm it.*"*

The philosophical prudence with which the fact and the opinion are here given by Dr. Latham differs from a positive assertion of a uniform semeiological relationship, and leaves ample room for Dr. Hughes's further explanation that the sound in question may depend upon local consolidation of the lung from any cause, or from the presence of a tumor of any kind in the thorax.

5. In the Cases and Observations in Medical Jurisprudence, by Dr. Alfred S. Taylor, that gentleman has brought together short reports of various cases of poisoning which have occurred within the last two or three years. Some of these had been referred to Dr. Taylor for analysis; in others his opinion has been required upon facts. Of the value of Dr. Taylor's opinion on questions of this nature it would be superfluous to dwell, The first case is remarkable, as exhibiting the rapidity with which arsenic can destroy life; 150 grains caused death in *two hours and a half*. The hydrated sesquioxide of iron did not in this case exert any influence on its progress. The second case furnishes an example of the severe suffering which pregnant females may endure without abortion being produced. A large quantity of arsenic was taken by a female in the eighth month of pregnancy, without abortion having been caused, although death ensued in five hours. In another case of poisoning by arsenic the symptoms of irritation in the alimentary canal were not urgent, and gave place to a remote affection of the brain, manifesting itself by a dull semi-narcotised condition of the patient. This case may serve to create caution in diagnosis. One of the subsequent cases is noticeable, not only from the absence of the ordinary symptoms of poisoning by arsenic but from the presence of those of a directly opposite character. The entire absence of all motive for the act, and the general mysteriousness of the case, give rise to some very judicious reflections. The manner in which the examination for the detection of the poison had been conducted elicits also some practical hints from the author.

In two other cases Dr. Taylor takes occasion to offer the following remarks on the use of tartar emetic to excite vomiting in cases of poisoning with arsenic:—

> "The use of tartarised antimony as an emetic has been generally condemned in cases of poisoning, because it has been supposed to have a tendency, during the nauseating stage, to promote the absorption of a poison. The above cases, and some others which might be quoted, show that this danger is of a hypothetical kind, and based on physiological principles not applicable to the treatment of such cases. If tartarised antimony aids absorption, it very quickly promotes the expulsion of the poison by vomiting; and the latter mode of operation is much more beneficial than the latter is injurious. . . . . . Had the hydrated sesquioxide of iron been administered to these two patients simultaneously with the emetic, their recovery would have been certainly ascribed to it, and not to the tartarised antimony. The results show, therefore, that the so-called antidote is not required, provided there be speedy and early vomiting; while, on the other hand, the swallowing of any quantity of hydrated oxide of iron, where arsenic has been taken in the form of *powder*, will be attended with no benefit, if vomiting have not been freely promoted, or the stomach-pump assiduously used."

These observations are clearly of great practical importance; for it is certainly worth knowing that the most powerful emetic, and one which is generally at hand to the practitioner, may be not only safely but even advantageously administered in cases of poisoning, instead of being a prohibited means. These cases, in which the tartar emetic was given by Mr. Beardsley, of Heanor, seem also to show that this remedy possesses other advantages in carrying off the poison by the bowels, as well as by controlling the inflammatory effects of irritant poisons.

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* The italics are our own.

The remaining subjects of Dr. Taylor's observations are:—Asphyxia, produced by the application of Deutonitrate of Mercury to the Throat; Poisoning by Red Oxide of Lead, the only case of the kind that Dr. Taylor has met with; Poisoning by Muriatic Acid; by Common Mussel; by Bichromate of Potash; by Laburnum Flowers; by Tincture of Opium—recovery after a dose of five ounces; two cases of Suspected Irritant Poisoning; a case of Vagitus Uterinus. Under every one of the topics here named, the author offers useful practical suggestions which our space compels us to pass unnoticed, but to which we would especially direct our readers' attention.

Besides the preceding, the following scarcely less valuable contributions find a place in the present number of the Guy's Hospital Reports:—Select Cases of Hernia, by Mr. Cock; a case of Insuperable Constipation, by Mr. Birkett; Ophthalmic Cases, by Mr. France; a case of Malignant Disease of the Tongue, by Mr. Hilton; and a case of Chronic Laryngitis—pregnancy—tracheotomy, by Mr. H. R. Rump.

It is with considerable regret that we find that we have occupied so much space with the notices, imperfect as they are, of some preceding portions of the volume before us, that we are thus limited to a simple enumeration of the concluding subjects. We do not doubt, however, that the reputation of the present number of these Reports will ensure it many readers, and their authors will therefore have but little reason to regret the omission.

Elements of Urinary Analysis and Diagnosis, Chemical and Microscopical. By Robert Venables, A.M., M.B., Lecturer on Forensic Medicine, &c. &c. Small 8vo. pp. 66. London: Knight. 1850.

This little work is intended to form an accompaniment and guide to a chest of instruments and tests for the chemical examination of the urine. This chest—which is arranged and prepared under Dr. Venables' direction, by Messrs. Knight, of Foster Lane, London—is called the "Urino-Chemical Chest," and will scarcely be available, except to the experienced practical chemist, without Dr. Venables' book. With the help of this the analysis of the various pathological conditions of the urine will be greatly facilitated.

The author presents, in a small space, a very excellent summary of the physical and chemical properties of healthy and morbid urine, as well as of their several constituent bodies. The composition and characters of various calculi, and the modes of their analysis, are succinctly given. The present edition of this work possesses also a chapter on the microscopical analysis of urinary deposits, in which their forms and appearances, as viewed by that instrument, are described, and illustrated by wood-engravings.

Dr. Venables' work will be found a most convenient and useful guide to the clinical observation of urinary disorders, as well as to the study of the higher and more elaborate treatises of Drs. Prout, Golding Bird, Owen Rees, Bence Jones, and others.

Hydrocephalus reconsidered, and its Relations to Inflammation and Irritation of the Brain defined; with Cases from Hospital and Private Practice in Exemplification of its Pathology, Prevention, and Successful Treatment. By Thos. Weedon Cooke, M.R.C.S.E., &c., Medical Officer for Diseases of Children at the Royal Free Hospital. 12mo. pp. 112. London: Highley. 1850.

The author's object in the publication of this essay may be gathered from the following "conclusions" to its first division, in which he has dwelt upon the immaturity of the child's brain, and its liability to disease; the abuse of blood-letting in the treatment of disease generally; the pathology of inflammation and irritation; and the symptoms, causes, and treatment of cerebral inflammation:—

"1stly. That inflammation of the brain exists without effusion, and that consequently the term hydrocephalus is misleading.

"2dly. That inflammation of the brain in children is not an uncommon disease.

"3dly. That inflammation of the brain in children is perfectly under the control of medicine, if quickly, actively, and rightly administered.

"4thly. That even in the second or collapsed stage of the disease, there are remedies which will avail in restoring half the patients we have to treat.

"And lastly. That active cerebral inflammation in childhood does not return more necessarily than does inflammation of any other organ." (p. 41.)

These conclusions are followed by a chapter on the symptoms, causes, treatment, and pathology of cerebral irritation; which term the author employs as "most justly applicable to the condition of the cerebrum known in the books by the names 'Hydrocephalus,' 'Subacute Hydrocephalus,' 'Strumous Hydrocephalus,' and 'Chronic Hydrocephalus.'"

An Appendix of Cases illustrates the views propounded by the author.

We can speak very favourably of Mr. Weedon Cooke's treatise, feeling assured that it will be found of considerable assistance to junior practitioners in forming their diagnosis of cerebral disease in children. The treatment advised by the author is prompt and judicious.

Remarks on Insanity; its Nature and Treatment. By Henry Monro. M.B. Oxon., Fellow of the Royal College of Physicians. 8vo. pp. 150. London: Churchill. 1851.

We have already had occasion to bring this work under the notice of our readers. In the last volume of this journal we reviewed the first part soon after its publication. We had great pleasure in expressing a very favourable opinion of it; this opinion we have now the opportunity of extending to the complete work

The first part discussed the corporeal nature of insanity, and showed it to consist in a loss of nervous tone. The second part substantiates the opinions and arguments then brought forward; it treats of the state of the vascular system in the insane; the generally depressed state of the vital and physical powers manifested by the insane; the keenness of sensibility exhibited in certain depressed conditions; and of the proneness of the female sex to insanity as confirmatory of the author's theory. It concludes with the results of treatment based on the pathological views entertained by the author.

The volume will form a valuable addition to the pathologist's library. It exhibits a thorough acquaintance with the subject of which the author treats; and enunciates clear and distinct principles whereon to base all practical remedial measures. It cannot fail to place its author in a prominent position among writers on psychological medicine.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Jan. 14, 1851.

Mr. Solly in the Chair.

Fibrous Tumor of the Uterus in conjunction with Pregnancy.

[We subjoin a more complete report of the remarks made by Mr. Robinson on this occasion]:—

Mr. Robinson, in reply, stated that he was gratified in finding both Dr. Lee and Dr. Oldham considered this case unique. In answer to the supposition raised by Mr. Lloyd, that much of the fluid described as blood might be serum effused as the consequence of peritonitis, he would say that when the *blood* is in excess it is not an easy thing to affirm positively whether such is the case or not; but, when the *serum* is in preponderance, there cannot be much doubt about it, and the deepness of tinge gives some indication of the amount of blood present. He could not, of course, say that there was *not any* serum mixed with the blood; but that the blood preponderated, he had no doubt. The woman had never fairly got out of the collapse; the peritonitis was of low type, and not very extensive, being confined to the uterus and intestinal convolutions around the tumor; and there were no flakes of lymph floating in the fluid, which would probably have been seen had inflammation been severe and the quantity of serum large. Mr. Robinson thought Dr. Heale's inquiry as to the non-coagulation of blood effused in serous cavities worthy to be prosecuted further. He doubted the validity of Dr. Oldham's conjecture, that a great part of the tumor was composed of true uterine tissue, because, the tumor being composed of three lobes—a right, middle, and left—upon this supposition the far greater part of this tumor would be composed of true uterine tissue, which it was difficult to believe.

With regard to the cause of the rupture, he still thought that it was owing to the entanglement of the tumor amongst the convolutions of the intestines, which hindered it from following the uterus in its descent, and had Dr. Oldham seen how completely it was entangled, he believed that his opinion would agree with his own. The cases mentioned by Dr. Oldham in which fibrous tumors existed on the anterior surface of the uterus, so as to be felt through the abdominal parietes, and consequently could not be imbedded in the intestines, could not be considered quite parallel to this case. Mr. Robinson further said, that it was never his intention to advise the induction of premature labour in cases of fibrous tumor in conjunction with pregnancy in general (as Dr. Lee and Dr. Reid seemed to have misunderstood him); but solely, that in cases in which other circumstances rendered such an operation desirable, the possibility of such a rupture of the peritoneum as had been related in the present paper, might be an additional reason for resorting to that measure.

PATHOLOGICAL SOCIETY OF LONDON.

Dr. Latham, President.

Dec. 17, 1850.

Mr. Wm. Adams exhibited a specimen of

Necrosis of the whole Shaft of the Tibia, together with the Superior Epiphysis,

of a child æt. 11½, produced by exposure to cold and wet. The shaft of the tibia, from the superior to the inferior epiphysis, was completely encased in a layer of new cancellous bone of variable thickness, but gradually diminishing from above downwards. Near the superior epiphysis it measured half an inch in thickness; and near the inferior epiphysis about an eighth of an inch. Several apertures existed at the upper part, and led directly to the detached portions of the old shaft. On section, the outline of the old shaft was distinctly traceable, below the detached portions, to the inferior epiphysis, and was of an opaque, ivory-white colour. It had lost the dense appearance of the compact tissue, and was light and porous. Its laminated texture was very distinctly obvious without any increase in bulk; this, therefore, did not depend on expansion, but on interstitial atrophy, or removal of tissue; the denser portion of each lamina only remaining. By this means all the lower part of the shaft seemed to be undergoing gradual removal, instead of being detached *en masse* as in the upper portion. The superior epiphysis was very imperfectly ossified; but several portions of the newly-formed bone had suffered necrosis, and the sequestra were loose in circumscribed cavities. The epiphysis was displaced, or rather tilted backwards and downwards; partially sunk, as it were, into the posterior part of the head of the tibia. Chronic inflammation of the synovial membrane existed in the knee-joint, and a layer of vascular adventitious membrane extended partially over the cartilage on the condyles of the femur, the cartilage being superficially eroded beneath the closely-applied vascular membrane. This specimen was interesting in a practical point of view, chiefly from the fact of the superior epiphysis being involved in the necrosis, which very rarely suffers; and therefore amputation, where necessary, may generally be performed below the knee-joint. The implication of the joint in these cases is not attended with active symptoms, from the chronic character of the disease, and the enfeebled constitutional conditions in which it occurs. In the present case, the epiphysis was considered to be involved, and the leg accordingly amputated above the knee. The child made a favourable recovery.

Also a specimen of

Periostitis of the Tibia

of a child æt. 8, produced by injury and accompanied with partial necrosis from sub-periosteal abscess; and the formation of a thin layer of periosteal bone in an early stage of development. An oval portion of the outer part of the head of the tibia, 2¼ inches in length, was necrosed and in an early stage of separation; a sub-periosteal abscess following the injury had taken place at this part. Around and below this, the shaft of the tibia was encased, for 7 inches of its length, with a layer of imperfectly formed new bone having the appearance of a membranous layer of firm, tough, gelatinous-looking substance of light amber colour, not unlike softened cartilage, partially impregnated with earthy salts; it was loosely applied to the surface of the old shaft, and inseparably connected, except where ossification was most advanced, with the under surface of the periosteum, so as to convey the idea of the periosteum itself having been converted into this succulent membranous layer. When the periosteum could be raised, the outer surface of this new osseous layer presented the ordinary perforated or cribriform appearance of new periosteal bone, though to the touch it could hardly be recognized as bone; it was yielding and elastic. The surface of a vertical section, at right angles to the surface of the shaft, presented the appearance of closely packed osseous fibres of very delicate or filamentous appearance applied obliquely to the surface, from below upwards; it was impossible to isolate them for microscopic examination; they always separated in masses, splitting in the direction of the osseous fibres, with an inclination, especially in those towards the external surface, to split or peel off, downwards in shreds or films parallel to the shaft of the bone, apparently indicating the commencement of a circumferential lamellated structure. A transverse section of this thin layer of new periosteal bone showed the existence of numerous Haversian canals, generally of large size and elongated oval form, the long axis being placed, more or less, at right angles to the shaft; there were no appearances of concentric lamellæ surrounding the Haversian canals. Faintly marked lacunæ existed in abundance, without any definite arrangement or canaliculi.

This child struck his tibia in a fall against a crate about a month previous to his death, which was caused by an attack of pericarditis.

Dr. Brinton, at the request of Dr. Williams, stated that he had made a

Microscopic Examination of some Exudations from the Alimentary Canal,

of which he gave the following report:—

The larger and whiter (probably purer) specimens were long, flat, and riband-like, with a distinct cleavage in planes parallel to the flat surface: they consisted of irregular shrunken cells, of small and uniform size, spindle-shape, and yellowish colour. No nucleus could be distinctly made out: whence they were probably of the cytoblast form. A considerable quantity of a jelly-like albuminous substance united these cells. In short, these substances appeared to be the ordinary exudation of an inflamed mucous surface—viz., the natural cell-growth of the part, increased in quantity, and in the number of its layers, and diminished in development. The shrunken appearance of the cells was probably due to the alcohol in which they had been kept—a cause which had probably increased the apparent quantity of the inter-cellular albuminous substance. With many of the specimens were seen small crystalline masses of soft consistence and tetrahedral form. They were found only on the surface, and especially on the filamentous extremities of the substances: they were mixed with cholesterine; they were slightly soluble in ether, and unaffected by dilute acids or alkalies. Hence they were probably some form of fat, either mixed with the exudations in the body, or roughly crystallised alcoholic solution.

Thus the microscopic appearances of these bodies fully confirmed the idea of their inflammatory import deduced by Dr. Williams from their history.

Jan. 7, 1851.

This being the annual general meeting of the Society, the officers and council were proposed and elected for the ensuing year, a list of which was published in our number for 17th inst.

Mr. Gay exhibited the

Right Kidney of a Woman, aged sixty-two,

which he found in front of the lumbar vertebra, opposite the bifurcation of the aorta, and reaching within an inch and a half of the fundus of the uterus.

The ureter emerges from the centre and front part of the organ (the pelvis) in a branched form, the calices having united to form three tubes, which, after a short course, coalesce. It then passes along a sulcus in the lower border of the organ to its destination. The principal veins commence with the ureter, but ascend, taking exactly the opposite direction to that vessel, and, after leaving the upper border of the kidney, where they are also situated in a groove, they unite and enter the cava as a single vessel. The arteries, four in number, enter the kidney singly at its back part or on the side opposite to that from which the vein and ureter emerge. Two of these arteries arise from the aorta near its termination, and the other two from the right common iliac, each being accompanied by a small vein.

Mr. Toynbee exhibited a

Microscopical Preparation of New Vessels developed on the Surface of Inflamed Serous Membrane.

The preparation consisted of a portion of the dura mater which had been removed from a man ten days after he had received a fracture of the cranium. In some parts fibrine was effused on the surface of the arachnoid; in others there was acute inflammation only. The blood-vessels presented two different conditions; one consisted in the development of tortuous and dilated branches, the communications between these and the original vessels being very distinct: other vessels which appeared to be developed in the substance of the fibrine formed a very complicated net-work; and their continuity with the parent vessels was not so obvious as in those first alluded to.

Mr. Coulson exhibited a specimen of
Fungoid Disease,
which he had removed from just above the left groin of a man sixty-one years of age. About seven months ago he perceived two distinct swellings, each of the size of a hazel-nut. They increased rather rapidly, without pain. There was sensible fluctuation, and the skin was discoloured. The grooved needle was inserted into the prominent part of the swelling, and nothing but blood escaped. After this the skin quickly ulcerated, and presented a fungoid appearance. The general health was not affected. The tumor was about the size of a female breast. It consisted of a subcutaneous cyst, one and a quarter inch in diameter, filled with soft vascular growths, of very irregular form and variable size, corresponding in appearance to the pedunculated bodies described by Dr. Hodgkin as growing from the interior of cysts. The secondary growths had filled the cyst to distension, and the skin above it having ulcerated they projected externally in the form of a fungoid growth, of a dark blood-red colour. The direct continuity of the soft vascular bodies forming the external fungoid growth, with the pedunculated bodies filling the subcutaneous cyst, was easily demonstrated. Connected with the base of the subcutaneous cyst was a solid mass, of a firm adventitious growth, having on section very much the appearance of a scirrhous mass. The solid part, when viewed under the microscope, presented elongated spindle-shaped, and caudate cells in abundance, and a few spherical cells. The nuclei were distinct in all. The growths in the cysts presented spherical cells of different sizes in great numbers, with one, two, or three distinct nuclei. The elongated and spindle-shaped cells were comparatively scanty.

Also a specimen of
Epithelial Cancer of the Penis,
which he had removed a few days before; and observed, that in a similar case which he had exhibited to the Society, about nine months ago, the disease had not returned.

MEDICAL SOCIETY OF LONDON.

January 25, 1851.

Dr. J. R. Bennett, President.

Removal of the Cuboid, together with the two outer Metatarsal Bones and Toes.

Mr. Coulson related the following case of excision of the cuboid and the two outer metatarsal bones:—A. F., aged 22, always enjoyed good health till last March, when he had an attack of pleurisy, which lasted a week or twelve days. In the middle of May, after considerable exertion, he first observed a swelling on the outside of the right foot, which soon became red and painful. This was treated in the usual way (by poultices and fomentations), but still it increased in size. In July, the swelling was freely opened, and a good deal of cheesy matter removed. The wound, however, continued to discharge, and it was soon discovered that the bone corresponding with the opening was diseased. He was then very properly advised to have an operation performed, either for the removal of part or the whole of the foot. Mr. C. saw the patient on the 17th of October last, when he found a sore, of the size of a shilling, on the dorsum of the right foot, corresponding to the cuboid bone, from which there was a good deal of sanio-purulent discharge. On introducing a probe through the wound, the bone could be felt distinctly carious. The foot was generally swollen, but there was free motion of the ankle-joint. For some time past the pain on attempting to put the foot to the ground had been excessive, and at night, as soon as he became warm, he was racked with violent drawing pains, which prevented him from having any sleep for weeks together. The discharge of matter, from the middle of July to the time Mr. C. saw him, had been very great; latterly it had been thick, and sometimes tinged with blood. He seemed very much worn by his sufferings, and was looking pale, thin, and exhausted. As far as Mr. C. could learn, there was no hereditary complaint in the family of any kind; the patient had never required medical advice till March last. It was a matter of uncertainty to what extent the bones of the tarsus were affected, especially as the pain and swelling were so great; but the greater probability being that the cuboid only was affected, Mr. C. determined at first to remove that bone, and, if the disease had extended beyond, to perform Chopart's operation, or remove the foot at the ankle-joint. An incision was carried from a little beyond the wound posteriorly along the outer part of the dorsum to the extremity, and round the two outer toes; the skin was dissected upwards and downwards, so as to expose the cuboid and the two metatarsal bones. The knife was then carried along the inner side of the two metatarsal bones; little or no skin, except at the extremities of the toes, being taken away. The bones were disarticulated from the cuboid, and this bone easily detached from the os calcis by means of a gouge. The disease was found to be confined to the cuboid only; the os calcis and other bones, as far as could be ascertained, not being affected. The disease was situated in the cancellous structure, the cells having been enlarged principally through the breaking down of their walls; for the bony débris was discoverable amongst the other contents of the cells. The lining membrane was intensely red, and the inflammatory action had extended from the centre towards the articular surfaces, which were, however, healthy. The contents of the enlarged cells were principally thick well-formed pus. The healing of the wound proceeded favourably, and at the end of December the patient left town. In a letter on the 16th of this month, he says that his foot is fast gaining strength, so that, with a little assistance from two sticks, he can walk very nicely. Simple as this operation is, Mr. Coulson could find few cases of it on record. In Averill's Operative Surgery, 2d edition, p. 184, a case is recorded, in which Mr. Key removed this bone, together with the cuneiform and two or three metatarsal bones, on account of an injury to the foot,—Mr. Key's object being to save the great toe: the operation was completely successful. At the Meeting of the British Association for the Advancement of Science, held at Dublin in 1835, Mr. Whitton, of Manchester, advocated the longitudinal operation, and showed a patient from whom he had removed the three outer toes and external cuneiform, together with the cuboid, who could walk without even a halt. Professor Syme, to whom Mr. C. expressed his obligation for this information, considers the chief objection to all such operations as these—the risk of relapse; and is inclined to think the ankle-joint amputation a more efficient mode of affording relief, with few exceptions, when the disease affects the tarsus. Mr. Coulson hoped that the case related to-night would prove successful, as the disease had existed so short a time, and had made so little progress.

New Instrument for Dilating Strictures of the Urethra.

Mr. T. **Wakley** exhibited to the Society, an instrument, invented by himself, for the dilatation of strictures of the urethra. It consists of a small-sized steel sound, nearly twice the length of an ordinary catheter. Accurately fitted to the sound, are a series of somewhat tapering canulæ of different sizes. There is also a flexible canula armed with a silver tip about one-third of an inch long, of the same diameter as the canula: a small silver catheter of the same size as the sound completes the apparatus.

The method of using is as follows:—The sound is first to be passed into the bladder, the smallest of the canulæ is then to be slid over the sound and pressed through the stricture to a sufficient distance; a larger size is then to be used, and so on until the surgeon determines that he has done enough at one sitting. If the patient can lie by, the dilatation may be rapidly proceeded with; but, under ordinary circumstances, this is not recommended.

If the operator think proper, he may, in a similar manner, pass the flexible canula over the sound into the bladder, and allow it to remain there, withdrawing the sound through the canula.

Mr. **Wakley** observed, that any stricture through which the sound could be passed (and he begged to call the attention of the Fellows of the Society to the statement of Mr. Syme relative to the necessity of first passing a staff through a stricture before operating on it through the perineum by section) was curable by the instrument he had the pleasure to bring before their notice. He had tried it in many cases at the Royal Free Hospital, and had found it answer the purpose intended to his perfect satisfaction.

Mr. **Gay** had employed the instrument invented by Mr. Wakley in a most obstinate and severe case, of old standing. He had carried the dilatation on rapidly without producing any ill effects, and had found the case progress most favourably under the treatment.

Preservation of Anatomical Preparations by Arseniuretted Hydrogen Gas.

Mr. **Middleton** stated that, from the great expense of spirit of wine, and the various objections to the employment of other preservative fluids, he had been led to make some experiments with gases having antiseptic powers. He had found arseniuretted hydrogen to answer admirably, and he exhibited a specimen of diseased structure so preserved. The preparation had been several months in the bottle without showing the slightest symptom of change.

The object to be preserved should be placed in a suitable bottle filled with water. The bottle is then to be inverted in a pneumatic trough, and the gas passed into it in the ordinary way, so as completely to displace the water. The mouth of the bottle must then be closed with a good cork under water, and afterwards dipped in melted wax.

The gas can very easily be prepared by mixing in a retort sulphuric acid, zinc, and arsenious acid, with a certain quantity of water.

Dr. **King** suggested that, for greater safety, the mouth of the bottle should be closed with a glass stopper, and hermetically sealed by the blow-pipe.

On the Cure of Permanent Stricture of the Urethra by Caustic Potass.

Mr. **Wade** read a paper containing a summary views in respect of the treatment of permanent stricture, and appended the following cases, which had occurred in his practice during the past year, in which the caustic potass was successfully employed.

I. H. B., æt. 35, was placed under treatment in October 1849. The urethra was extremely irritable, and prone to hæmorrhage after the armed bougie had been passed. This irritability speedily vanished, and the patient was perfectly free from all discomfort on the 1st of Feb. 1851.

II. E. P. two strictures: one at four and a half, the other five and a half inches, from the orifice. Seven applications of the caustic effected a cure. This patient had previously suffered from retention.

III. Capt. F. two strictures, exceedingly irritable; one at two inches, the other at five inches from the orifice. Caustic applied on the 15th of April, 1850: on the 27th of the same month he left town, but he informed Mr. Wade, by letter received in August, that he could pass No. 9 bougie with ease.

IV. M. C. æt. 45, had irritable stricture of long standing; had consulted several eminent surgeons, and had been catheterized without benefit. Two applications of the caustic produced great improvement, and a cure was subsequently made.

V. E. S., æt. 40, had suffered from several attacks of retention of urine: two strictures were found, one at five inches and a quarter, the other at six and a half from orifice of urethra.

Perineal section had been proposed to this patient by some other surgeon. However, by the use of the caustic, a cure was brought about without having recourse to that operation.

VI. A. B., æt. 30, was placed under treatment on the 17th Sept. 1850. He was obliged to leave town on the 21st of Sept., but notwithstanding found his condition much improved.

VII. S. A., a patient at the Western Dispensary, was submitted to the caustic potass treatment, with complete success.

Mr. B. **Childs** stated that he had never used the caustic potass, but had employed the nitrate of silver with great advantage, particularly in one case of twelve years' standing. It was a most important point to avoid false passages in using the caustic. He had known some great mistakes made: in one instance, a surgeon had treated an enlarged prostate with nitrate of silver, believing it to be permanent stricture.

Mr. **Hancock** thought sufficient attention was not given to constitutional treatment. He had met lately, in private practice, with cases in which the greatest difficulty existed in making water; the patient suffering excessive pain and inconvenience, and having a constant desire to micturate. Complete cures had been effected without having once introduced a catheter: much mischief was often done by using a too small catheter. In some instances, where a No. 2 produced bleeding and great pain, a No. 8 would pass easily.

Mr. H. said he had formerly been strongly prejudiced against the employment of caustic potass; he confessed his objections had been groundless. He had a short time since cured a patient by its means, who had been sent up from the Haslar Hospital to be operated on by him in the Charing Cross Hospital. In treating strictures, it was the best plan to increase the size of the catheter so long as the orifice of the urethra would allow of its being passed into it.

Mr. H. **Smith** had great pleasure in stating how much he felt himself indebted to Mr. Wade for the instruction he had derived from him. He had used the caustic potass frequently, and with satisfactory results.

A case was under his care, in which, after first passing the plain bougie, retention of urine came on: notwithstanding, he applied the caustic, and no retention ever followed its use; but, on the first introduction of a silver catheter, retention again came on. This he considered very singular, and as being a good proof that the caustic was not liable to cause retention, even in a very irritable urethra.

Mr. **Gay** thought the caustic treatment very useful in certain cases. The question was, How does it act? Did it produce its good effect by simply exciting action and promoting absorption, or did it produce a slough?

Mr. G. had known many instances of much mischief having been done by the mismanagement of instruments. He was not inclined to look upon the operation of puncture of the bladder as by any means as dangerous as it was usually supposed to be: he had punctured the bladder many times without the least bad result.

ROYAL INSTITUTION.

Jan. 24, 1851.

On the Magnetic Characters and Relations of Oxygen and Nitrogen.

Professor Faraday opened the Friday Evening Lectures for the session with a most interesting and instructive discourse on the Magnetic Properties of Oxygen and Nitrogen.

The Lecturer commenced by stating that the views advanced by himself three years ago with reference to the magnetism of gases, have been in every respect confirmed by the researches of Becquerel, who has been engaged simultaneously in a similar line of investigation without any communication with himself. These two philosophers have thus mutually confirmed each other's conclusions.

Dr. Faraday dwelt briefly upon the importance of oxygen in nature, stating that it was the most abundant elementary substance known to us, that it formed by weight one-fifth of the atmosphere, and probably not less than one-half of the solid crust of the globe. He then illustrated the nature of the two kinds of magnetism—the natural and the acquired—exhibiting the force as possessed by the loadstone, and as bestowed upon soft iron by the electric current of a powerful battery; pointing out the distinction, that in the case of the former the power is permanently retained, while in the latter it is temporary.

The magnetic properties of oxygen were exhibited by an ingenious apparatus contrived for the purpose of showing the effect of *axial* force or attraction. The arrangement consisted of a large mass of soft iron, of the shape of a horse-shoe, between the extremities of which was placed a piece of iron, the centre being so cut away that it represented the junction of the apices of two cones. The small extent of surface thus presented being insufficient to convey entirely the magnetic current, the magnetic force is exerted at right angles. Oxygen was brought within the range of the power of the magnetic current by being inclosed in glass bulbs, as well as in soap-bubbles, and approximated to the narrow part of the soft iron placed between the ends of the horse-shoe magnet. A balance was accurately adjusted and so arranged that the attraction of oxygen in a glass bulb was made apparent in all parts of the theatre by the movement of a long arm of straw attached to the opposite extremity of the balance. Small soap-bubbles filled with oxygen were attracted with great power, and immediately destroyed. The force of attraction in the bubbles was in proportion to the quantity of oxygen present. Nitrogen, or a vacuum, equally treated, was not attracted.

Among the conclusions announced and illustrated by Dr. Faraday were the following:—The magnetic attraction is in proportion to the bulk of the oxygen in a gaseous mixture.

The amount of magnetic action is in an inverse proportion to the rarefaction of the oxygen by heat; so that oxygen, like iron and cobalt, loses its magnetic properties by heat, and reacquires them on cooling.

The oxygen and nitrogen of the air are not separated from each other by any degree of magnetic force.

Oxygen undergoes no condensation by the highest degree of magnetic power; no change of bulk resulting from any amount of magnetic force applied to it. Heat arrests the manifestation of magnetic force by oxygen as in other magnetic bodies.

The last proposition was illustrated by the change produced in the direction of flame by the magnetic current; the heated air being driven down by the cold air, which is more powerfully attracted.

This proposition was also applied by Professor Faraday to explain the variations in the lines of terrestrial magnetism under the influence of the sun's rays; and thereby to support the theory, that the diurnal and yearly variations of the compass, as well as the local deflections, are due to changes in the magnetic properties of oxygen brought about by the influence of solar heat.

ACADEMY OF MEDICINE, PARIS.

Jan. 14, 1851.

On Animal Poisons.

M. Loude read a report on the work of Dr. Hameau, entitled "Reflections on Virus."

The author establishes a difference between virus and poisons, miasm and venom. With regard to the three last, M. Hameau observes that they act instantaneously if in sufficient strength, and debilitate in acting; they are decomposed in decomposing; they submit to the laws of chemical action, their action being remarkable for the power which they possess of overcoming the vital forces.

The following, among other propositions, were submitted by M. Hameau:—

1. Heterogeneous matter introduced into a living body remains for a certain time inactive, multiplies itself, and in passing into another body, acts in a similar manner—appears, in fact, to possess a vital principle.

2. There is an analogy between this and the development of insect germs in the bodies of plants and animals.

3. There is this difference from poisons, &c., that these are decomposed and lose their power; whereas the others do not lose but acquire force by their multiplication.

5 and 6. Virus is characterised by contagion, incubation, and regeneration, differing in duration; some being persistent—*e. g.*, syphilis, scabies, &c.; others evanescent—as variola, rubeola, &c.

7. There is a repulsive power of one virus towards another; two cannot co-exist in the same body.

8. Particular climates possess their particular virus—*e. g.*, the yellow fever appears to have originated in Africa; syphilis in America; variola and cholera in India; itch, malignant pustule, and typhus, in Europe.

9. Some animals have their peculiar virus.

11. Virus is visible—*e. g.*, vaccine, syphilitic, &c.; or invisible, as that of fevers.

The author adduced illustrations of his positions in the history and progress of cholera and other spreading diseases, and added some remarks on treatment and prevention.

ACADEMY OF SCIENCES, PARIS.

Jan. 13, 1851.

Effects of Chlorinated Hydrochloric Ether on Animals.

M. Flourens read a note, in which he stated that he had found this agent to produce a powerful effect upon various animals. Dogs were placed under its full effect in about three or four minutes; all sensibility was completely destroyed, without any impairment of movement. Injected into the crural artery of a dog, both motion and sensation of the posterior extremities were lost, tetanic rigidity being produced. The effects observed were similar to those produced by chloroform and the essential oils; while the ordinary ethers, the fixed oils, naphtha, ammonia, and camphor, produced paralysis, with relaxation of the muscles, when injected by the arteries. The separation of the action of the nerve and of the muscle is thus effected, and a means of physiological analysis is furnished by the use of this ethereal compound.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 23d January, 1851:—Edwin Henry Bolton, London—George Elin—William Chapman, Sedburgh.

Hospital and Infirmary Reports.

GUY'S HOSPITAL.

Contused and Lacerated Wound of the Hand, Wrist, and Forearm, from being crushed between two rollers. Recovery without amputation. Dresser, Mr. Odling.

J. T., æt. 17, was admitted into Guy's, under Mr. Hilton's care, on July 27th, 1850. His occupation is that of a paper maker; and, whilst at work in the factory, his left hand was caught between two cylinders revolving in the same direction, having only the small space of five-eighths of an inch between them (and which were used to glaze the paper), under a pressure of 9 cwt. The fingers appear to have been first caught, when the hand and arm were immediately drawn in: his health up to the period of the accident had been very good. On examination, there is a large contused and lacerated wound, irregular in form, extending over the palmar surface of the left hand and forearm as high as the centre of the middle third; laying bare the palmar fascia, the abductor pollicis muscle, and other muscles of the thumb, the tendons of the flexor muscles above the wrist-joint, and extending to the inner side of the forearm as far as the styloid process of the ulna: the skin was also jagged and lacerated to within two inches of the internal condyle. The arm above the laceration was very much contused, and so much tumefaction existed all over the limb, that the extent of the injury could with difficulty be ascertained. The arch formed by the carpal bones appeared to be quite lost, and the wrist seemed crushed and flattened; but there was no evidence of the wrist-joint having been laid open.

Mr. Hilton, after a careful examination, determined on attempting to save the limb, because there was no evidence of the large arteries and nerves being torn, and bearing in mind that if only a portion of the hand could be ultimately preserved it would be far more useful to the patient than an artificial hand; whilst the patient's age was in his favour, and his constitutional powers were previously unimpaired. Accordingly, the arm was raised on a pillow, and warm water dressing applied.—To take Hydrargyrum c. Cretâ et Pulv. Doveri, aa. gr. v. ter die.

The right hand was afterwards measured opposite the wrist-joint, and found to be one inch and three-eighths in thickness; so that the left hand must have passed through a space about half its natural bulk — under the enormous pressure above mentioned.

28th.—He has passed a tolerably good night, and appears as well as could be expected. His pulse is 106, and rather irritable. The surface of the wound presents a very unhealthy and jagged appearance.

29th.—The only evidence of any constitutional irritation at present existing, is in the number of the pulse, which is now increased to 120: his tongue is perfectly clean and moist, and he sleeps at night as though nothing had happened. In consequence of the gums having become rather sore, showing that the system was gradually getting under the influence of mercury, he was ordered Hyd. c. Cretâ, gr. iij.; Pulv. Doveri, gr. v. bis die.

30th.—The surface of the wound has, as might have been expected from the severity of the injury, assumed a gangrenous appearance, and discharges superficially a very fetid purulent fluid; whilst his pulse is smaller and more feeble. Mr. Hilton considered support was required, and ordered the patient a pint of Porter and six ounces of Wine.—Pergat.

August 2nd.—A superficial slough is beginning to separate from the palmar surface of the hand; whilst the marginal skin around the wound is in a gangrenous condition. The constitutional disturbance is very slight indeed, and throughout has been scarcely worth speaking of: not at all of that character which might have been anticipated with such extensive mischief.

4th.—He continues to improve slightly, but is at present very feeble.—Ordered Ammoniæ Sesquicarb. gr. iij.; Infusi Gentianæ et Infusi Cascarillæ, aa. ℥ss. ter die.

7th.—The loose and disintegrated pieces of skin and slough were yesterday removed by means of scissors, and the wound has assumed a much more favourable appearance. Healthy-looking granulations may be observed springing up in every part, well protected by a plentiful secretion of good-conditioned pus. A small piece of fractured bone was discovered on the outer part of the wrist-joint, supposed to be a portion of the trapezium: it was quite exposed, but too firmly fixed to the muscles to be removed. Simple unguent dressing was applied over the granulating surface, and the hand was extended on a splint,—for the double object of keeping it at rest, and at the same time preventing that contraction which might be expected with such extensive cicatrization.

12th.—The surface of the wound is now covered with exuberant granulations, and in some places they may be observed sprouting up from the sheaths of the flexor tendons. He was allowed to get up, and tonics being further indicated, ordered Quinæ Disulphatis, gr. iij.; Acidi Sulphurici diluti, ♏v. ex Infus. Rosæ, ℥j. ter die.

21st.—A small piece of detached bone was removed from the inner side of the carpal articulation, resembling the hook-like process of the unciform; whilst another piece is still exposed, though firmly attached, on the outer side of the joint, near the base of the metacarpal bone of the thumb. As the wound was quite filled up by granulation on a level with the adjacent skin, Mr. Hilton directed the following powder to be dusted over its surface, being an application which has in numerous instances appeared to favour the formation of cutis, and facilitate the process of cicatrization—Pulv. Zinci Oxydi, ℥j.: Pulv. Amyli, ℥j.; Pulv. Opii, ʒj.: Misce; fiat pulv.

26th.—The wound is cicatrizing rapidly, especially at the upper part: the hand is still kept extended on a splint, and the powder applied mornings and evenings. From this time he continued to improve, without any unfavourable symptoms, up to September 30th, when he left the Hospital in a good state of health, and with every probability of having a tolerably useful hand and arm, though necessarily very limited in its movements, in consequence of great stiffness in the wrist-joint and fingers. The small piece of exposed bone at the base of the metacarpal bone of the thumb never came away, but healed over; and cicatrization is going on rapidly in every direction. He returned into the country, where he improved rapidly: and in about one month afterwards the arm was entirely healed, having been kept in splints up to that time. The arm at this period was perfectly straight, but the wrist and fingers were very stiff. By constant rubbing and motion, it continued to improve until the early part of December, when, from some neglect on his part (the splints having been left off), the flexor tendons began to contract, and he was unable to extend the wrist-joint; whilst the middle and ring fingers became very much contracted, and he was unable to move them.

On January 7th, 1851, he came to the Hospital to see Mr. Hilton, when the arm presented the distorted appearance above described. Splints were again applied on the flexor and extensor surface of the forearm, and tightly bandaged, to endeavour to straighten it: this he has continued to persevere with until January 16th, when most of the contraction had been overcome and the fingers were again extended. He can now move the wrist-joint slightly, the thumb and index finger not being much interfered with in their movements; but at present there is not much motion in the middle, ring, and little fingers. He has not resumed his work yet, but hopes to do so shortly; his general health being very much improved.

The first question which presented itself on the admission of this patient was as to the propriety of immediate amputation. The great extent of the injury, and the extreme violence with which it had been inflicted, gave every reason to fear that the soft tissues had been so much contused and lacerated as to destroy their vitality; whilst, judging from the small space through which the hand, wrist, and lower portion of the arm had passed, it did not seem improbable but that some of the carpal bones had been completely crushed; indeed, one can scarcely conceive a greater extent of injury without destroying the longitudinal continuity of structures than existed in this case, the whole neighbourhood of the wrist being so completely compressed and squeezed out, as to increase its width more than one-half its natural dimensions. The muscles of the thumb appeared to be actually smashed by the pressure: so that, although their surfaces were visible, yet no direct form could be recognised. With all this, however, there was no evidence to show that either the deep arteries or nerves were severely injured or torn, a correct knowledge of which was of the greatest importance prior to making any attempt to save the limb; whilst the patient's age was at that period of life when the reparative powers may be said to be in full vigour, especially in a person who had previously enjoyed good health, and whose constitutional powers were unimpaired: indeed, these were the chief considerations which determined Mr. Hilton on attempting to save the limb—a decision perfectly in accordance with the wishes of the patient, as it is very doubtful if he would have consented, even although amputation had been proposed,—being so thoroughly convinced of his inability to follow his previous occupation with the loss of his limb, and preferring a maimed and imperfect hand to an artificial one. The result, however, has proved very favourable—far better than could have been expected; and there is every reason to hope that in course of time the movements of the wrist-joint will improve from their present condition.

In reading the notes of the case, especially in its early stages, one cannot fail to remark the mildness—indeed, we may almost say the absence—of those constitutional symptoms usually met with in injuries of this description, especially when the parts become gangrenous, and the sloughs are being thrown off. The patient, it will be observed, became slightly affected by the mercury on the third day after his admission; and it seems reasonable to infer that the constitutional disturbance was lessened by the plan of treatment adopted. Support was, as will be found to be the case in most hospital patients, indicated at an early period—chiefly by the character of the pulse; and tonics were administered as soon as circumstances permitted.

Extensive Laceration and Contusion of soft parts over the upper three-fourths of the Forearm, extending over the Elbow-joint, implicating the Muscles on the flexor aspect, and exposing the fascia on the extensor surface. Recovery without amputation. (*Dresser*, Mr. FULLER.)

John M'Carty, æt. 16, was admitted into the Accident Ward, Guy's Hospital, under the care of Mr. Hilton, on the afternoon of October 21st, 1850. In appearance he is a pale, thin-looking lad, but has enjoyed general good health: states that whilst at work in a steam saw-mill, where he was occupied in cleaning some brass attached to the sawing bench, he was in the act of reaching over the bench when the cogs of the wheel, which was in motion at the time, caught his jacket and dragged his arm into the mill. He was extricated as soon as possible, and brought to the Hospital immediately, when his arm presented a shockingly mangled appearance. The skin of his right forearm was completely torn off over the whole of the upper three-fourths of its surface, extending over and rather above the elbow-joint, completely exposing the fascia, and in many parts the muscles, especially on the anterior aspect, in which situation they were severely and extensively jagged and lacerated, so as to present a large ragged muscular surface.

The arteries and deep nerves were apparently uninjured, and there was no evidence of fracture. Considerable hæmorrhage was stated to have taken place before he came to the Hospital, but since his admission there has been nothing to speak of. A quantity of the jagged and loose portions of skin were cut away, and several pieces of his shirt were removed from amongst the muscles. He was labouring under considerable excitement at the time, and complained of severe pain in the arm. He was ordered to have two grains of opium immediately, and warm-water dressing applied to the arm, which was raised on a pillow. In consequence of such extensive and violent injury, the question of amputation was seriously considered; but as the arteries and nerves were apparently uninjured, without any evidence either of fractured bones or of serious injury to the elbow-joint, it was hoped that his age, previous good health, and unimpaired constitutional power, would enable him to bear up against, and ultimately to survive, the extensive and long-continued suppuration which must necessarily ensue for the reparation of such a severe injury over such a large extent of surface: accordingly, the arm was placed as above mentioned. At 12 P.M.—He had not passed any urine since his admission, and was suffering from symptoms of retention, which were relieved by the introduction of a catheter: he continued, however, very restless all night, suffering from severe pain in his arm.

22nd.—He is quite as well as can be expected: pain in the arm still continues all over the seat of injury, neither confined to any particular locality nor following any stated course: his tongue is somewhat furred; pulse small and hard, with a dry skin: his bowels not having been moved, he was ordered a dose of Magnesia mixture immediately, and two grains of Opium every night. During the night he again suffered from symptoms of retention of urine, relieved, as before, by the introduction of the catheter.

23d.—The arm is still very painful, but looking altogether as favourable as can be expected: his furred tongue, hot skin, and other febrile symptoms, still continue.—Ordered Hydrargyrum c. Cretâ, gr. iv.; Pulv. Doveri, gr. iv. bis die: to continue the warm water dressing to the arm, and repeat the Opium at bed-time.

24th.—Has again suffered from retention of urine during the night, requiring the use of the catheter, as before. Altogether he has slept somewhat better, but his symptoms are indicative of a good deal of constitutional disturbance, as evidenced by loss of appetite, thirst, feverishness, an accelerated pulse, and a hot dry skin. The arm was dressed this morning: there is a fetid purulent discharge, and the jagged portions of skin and muscle are assuming a sloughy appearance.

25th.—Feels better this morning; voided his urine naturally during the night, and the bowels are freely opened: his constitutional symptoms are somewhat alleviated, and the pulse is diminished to 90 per minute.

26th.—Continues much the same: the arm was dressed this morning; there was a good deal of superficial sloughing, and several portions of gangrenous skin were removed, when the parts underneath appeared tolerably healthy: the discharge, however, is still of a very fetid character.—As some stimulant was now indicated, he was ordered Ammoniæ Sesquicarbonatis, gr. iij.; Tincturæ Hyoscyami, ♏xx. ex Julepo Ammoniæ Acetatis, ℥iss. quartâ quaque horâ: and to repeat the Hydrargyrum c. Cretâ, gr. iv., with Pulv. Opii, gr. j., omni nocte.

28th.—The arm appeared much improved: he sleeps better at night, but his febrile symptoms still continue: tongue furred, but moist, with loss of appetite.—P.

31st.—The arm was dressed to-day, when some more gangrenous skin was removed: the granulations underneath were looking very healthy, but there was a large hollow on the flexor aspect of the forearm, caused by the torn skin, cellular tissue, and muscle having sloughed away, which will require some time to fill up by granulation: the surface of the limb is still exceedingly painful, and the discharge is of a better-conditioned purulent character.—Mr. Hilton ordered the following local application, consisting of Extracti Opii, ʒij.; Aquæ, ℥viij. M. ft. lotio. Also to cover the limb with cotton-wool: et P.

Nov. 2d.—He is progressing very favourably: the pain in the arm has been much diminished since the application of the opium: his appetite is improving, tongue cleaning, pulse natural, and bowels opened.—Allowed to have middle diet, and one pint of Porter daily.

12th.—Continues to improve: the arm presents a healthy granulating surface, with a copious purulent discharge: the excavation on the flexor part is filling up.—To continue the opiate lotion and cotton-wool around the arm.

26th.—The granulations are of a remarkably healthy character, and the margins of the wound show a disposition to heal.—To continue the Porter, and, in addition, Wine, ℥vj.

Dec. 10th.—He is doing remarkably well: the granulations are still of the same character, and the purulent discharge very abundant in spite of this drain: however, he keeps up his strength tolerably well.—The Unguentum Opii to be spread on lint, and applied over the sore, instead of the cotton-wool.—P.

From this time he continued improving slowly up to December 31st, when the granulations presented a remarkably healthy appearance, and the gap on the flexor aspect was gradually filling up: the suppuration, however, is still very copious, being upwards of a pint in the twenty-four hours, so that the poultice and bed-clothes were frequently saturated by it. He continues to apply the Unguentum Opii, which relieves the pain; but as yet there is not much attempt at cicatrization. Mr. Hilton thought further support was required, and accordingly increased his Porter to two pints daily, and his Wine to ℥x.; and at the same time ordered him Træ. Ferri Sesquichloridi, ♏xv. ex Infuso Quassiæ, ℥j. ter die.

Jan. 12th, 1851.—The purulent discharge still continues very profuse from the granulating surface, and his strength appears to be kept up by the wine and porter which he takes. With the view of lessening the discharge, as well as to enable him to get up, the limb to be bandaged over a plaster of the Unguentum Opii, which was applied over the granulating surface: and to take Acidi Gallici, gr. iv. ex Infuso Rosæ Comp., ℥j. ter die. Under this mode of treatment the suppuration diminished very rapidly; and for the first three or four nights after the arm was bandaged he perspired so profusely, that his shirt was quite wet when he awoke,—a condition which had not existed previously, and which soon after gradually decreased of itself.

22d.—The patient gets up, enjoys his food, and is progressing most favourably: the surface of the wound is diminishing in size; and, judging from his present condition, there is every reason to believe that he will in due time have a very useful arm.

It is not often that we meet with cases of contused and lacerated wounds involving such an extent of surface as occurred in this case; and it must be considered a fortunate circumstance that the injury was inflicted by the cogs of the wheel instead of the circular saw which was worked by it: otherwise there is every reason to fear that the injury would not have been so much confined to the surface as it was, but that the large arteries, deep nerves, and even the bones, would have suffered to a greater or less extent. The injury inflicted over and around the elbow-joint was quite superficial, and the movements of the joint were not interfered with otherwise than by the slight tumefaction which necessarily followed the severe contusion and laceration of the soft parts covering its surface.

The retention of urine which existed in this case during the night following the injury, and which recurred twice after, is a very unusual occurrence, and deserving particular attention to endeavour to elucidate its cause. Mr. Hilton is of opinion that it may be explained on the principle of reflex action originating in an impression being made upon the numerous sensitive nerves exposed over such a large extent of injured surface; that the excitation was conveyed by these to the spinal cord, and reflected from thence to the muscles of the perineum, giving rise to spasmodic stricture, and thus causing retention of urine. If the inability to void his urine had merely occurred on the night following the accident, it would scarcely have excited surprise, and might have been attributed to a shock to the entire nervous system,—not a very uncommon occurrence after severe injuries; but from its recurring for several nights in succession, we must look to some other cause; and, judging from the severe pain which he suffered in his arm at the time—showing that the contusion had not been so severe as to destroy the sensibility of the superficial nerves—it seems reasonable to ascribe it to this cause. Severe pain in the arm continued for many weeks after the patient's admission, and great relief was afforded by the application of an opiate lotion over the surface. The constitutional symptoms were more severe in this case than in the preceding one,—probably depending on the greater extent of gangrenous skin: their speedy decline, however, did not give rise to any apprehension on this head. The suppuration, as might be expected, was very copious, and required that the patient's powers should be well supported by wine, porter, &c.: as soon as the granulations were on a level with the adjacent skin, it was deemed advisable to lessen it. This, Mr. Hilton thought, might be best accomplished by bandaging the limb, and at the same time administering gallic acid internally, which he had known to produce marked benefit in one case of copious suppuration, as he supposed, by acting as an astringent upon the capillaries, and thus diminishing the secretion. The good effect in this case, as has been already stated, was very speedy and decided, as the purulent discharge immediately began to decrease; but whether this was to be attributed to the gallic acid or the pressure may admit of some doubt. The occurrence of profuse night perspirations during the night after this treatment commenced, is a very interesting fact: it would seem to indicate that, the suppuration being diminished, a somewhat copious drain upon the system had been suddenly checked, and that nature was getting rid of the consequent excess of fluid in the system through the medium of the cutaneous perspiration: its duration, however, was not of long continuance, as it began to diminish a few nights afterwards, and gradually disappeared.

OBITUARY.

On the 21st inst., at 7, Taunton Place, Regent's Park, aged 36, John Dymock Scale, Esq. M.D., M.R.C.S. and L.A.C., third son of the late George Scale, Esq., of Aberdare, Glamorganshire, after a fortnight's illness, of inflammation of the lungs.

Correspondence.

MEDICAL EVIDENCE IN CASES OF RAPE.

LETTER FROM MR. ROBERTSON.

SIR,—In the case of alleged Rape recently tried at the Old Bailey, my evidence has been entirely misreported, and consequently misunderstood. If it had been of such a character as your leading article assumes it to have been, it would richly have deserved the censure with which it is there mentioned. I beg the favour of your insertion of the whole of the evidence and facts connected therewith, and shall then leave the matter in your hands.

The girl, Elizabeth Reed, was sent to me by the magistrate, to be examined, on the morning of Tuesday. She stated that the rape had been committed on the Friday previous, and that the menses had appeared on the intervening Sunday. Dr. Heale, physician to the Hospital, being in the wards at the time, was kind enough, at my request, to assist me in the examination, and subsequently with me to subject the stains on the shift to microscopic observation. I found (and I give the *exact words* I used in evidence) that "there was a small scratch on the left labium externum; that besides this there were *no bruises* or other marks of violence; that the hymen was ruptured,—at what period I could not possibly say; that the menstrual secretion was present, and to some extent obscured the examination of the internal parts; that no laceration could be seen; that I had examined under the microscope the shift said to have been worn at the time, and that upon it were stains of blood and marks of seminal fluid." In answer to Mr. Clarkson, I distinctly stated "that the intercourse might have taken place weeks before; that the rupture of the hymen might as probably have occurred two years ago, as on that Friday; that the scratch might have been inflicted with any sharp instrument; and that I could not say whether the blood on the shift was menstrual or otherwise." In answer to the magistrate, I stated that the "act," not the "offence," had undoubtedly been effected, but *at what time* I had no means of forming an opinion. Mr. Tyrwhitt said that the girl had *sworn* to the fact, and my evidence proving that "connection had occurred," he had no alternative but to send the case before a jury.

To my extreme annoyance, the incorrect report then appeared in the daily papers. I waited until the trial to have it rectified; and it was to me—to use the language of your article—"a matter of the most sincere regret that at the trial the case broke down by the mere cross-examination of the prosecutrix herself, and therefore the nature of the 'medical evidence' did not transpire." I immediately got up and asked permission of the learned judge to state, in contradiction to the report of the case before the magistrate, that my evidence did not in any way apply to the prisoner, but only showed that connection had *at some time* taken place. Mr. Justice Talfourd said "that he had read my deposition, and that there was not the slightest imputation upon my evidence." He expressed the same feeling in his charge. "The medical evidence," he said, "although it might establish a particular fact, did *not by any means point to the prisoner*."

Mr. Clarkson said,—"I believe, Mr. Robertson, your evidence would have tended to exonerate the prisoner?" I answered—"Distinctly so."

The prisoner, on quitting the dock, thanked me most earnestly, and repeated those thanks before a large party of his friends, for the manner in which I had given my evidence, and the favourable effect his legal advisers anticipated from it, had it come before a jury. I regret, sir, exceedingly that these particulars have not been published before. If a sense of delicacy prevents the daily papers from publishing the *complete* evidence in such cases, a sense of justice ought surely to prevent them from incorrectly reporting a part, or attempting, in their own words, and in a loose and indefinite manner, to give the character of the whole. Had they not done so in this instance, I should have been spared the annoyance of being supposed in the slightest degree to have corroborated the testimony of a "cunning impostor;" whilst I, in fact—to quote from your article again—gave my evidence "with a strict regard to truth, according to the best of my judgment, and wholly irrespective of any sympathy for either prisoner or prosecutrix."

I am, sir,
Your most obedient servant,
W. TINDAL ROBERTSON,
Resident-Surgeon.

Royal Free Hospital, Jan. 22, 1851.

PS.—I beg to add that I have no claim to the title of "Dr.," which, although he had my card with "Mr." upon it, in fair-sized letters, the reporter inaccurately and improperly prefixed to my name.

THE PROPOSED NEW CHARTER OF THE ROYAL COLLEGE OF PHYSICIANS.

SIR,—I have read with very great pleasure your remarks in reference to the Medical Directory (M.D.'s and Physicians). In the circular sent to the profession, one of the questions asked was—"Whether practising as a physician, surgeon, or *general practitioner?*" But the present volume supplies no information as to the line of practice carried on by each individual: we have, however, a list of homœopathists, perhaps, as an equivalent.

Let us hope, however, that the present year will not pass away without the granting of a new charter to the Royal College of Physicians. From what I know of the draft of the amended charter, it would give general satisfaction to the great majority of our provincial physicians. The receiving, as proposed, all the Fellows and Licentiates of the Royal Colleges of Physicians of Edinburgh and Dublin, as well as all graduates of British Universities, at present practising as physicians in England, into the Royal College of Physicians, on payment of a small fee, would do much towards establishing *uniformity of practice*. The granting of such a charter would also be followed by a much-needed alteration of some of the truly ridiculous old rules and antiquated notions of County Hospitals, to which a boy-graduate of the London University, aged twenty-one, or of Edinburgh, would be eligible as a physician; whilst some of the most accomplished of the London Hospital physicians would, by the present rules, be excluded. Thus the qualification of senior physician to St. Bartholomew's or St. George's Hospital would not be sufficient for the Nottingham or Northampton Infirmary, to either of which, however, a graduate of St. Andrew's, or at any rate a young gentleman just of age, and made M.D. at Edinburgh, would be eligible, if I am not very much mistaken,—and that, too, without perhaps, ever having written a prescription. All this has arisen from the limited powers of the College of Physicians, the granting of a new charter to which is much to be desired, and the advantages that would arise from it have been fully admitted by the Provincial Medical and Surgical Association.

Let us hope, sir, that you will lend your assistance to the promoting of a result so desirable; and in the hope that the College will obtain its charter during the present year, and that the medical reform question will be settled,—I remain, sir,

Your obedient servant,
M.D., F.R.C.P.

January 25, 1851.

CORRESPONDENCE BETWEEN DR. NELSON, PROF. OF CLINICAL MEDICINE, QUEEN'S COLLEGE, BIRMINGHAM, AND THE COURT OF EXAMINERS OF THE SOCIETY OF APOTHECARIES.

Queen's College, Birmingham, Dec. 12, 1850.

Dear Sir,—Will you oblige me by giving me some clear and settled idea on the following subject? Your Society's Rules, as exhibited in the Student's Number of the *Lancet*, (September 28, 1850,) declare very distinctly, that each student who commenced his studies, on or after October 1, 1849, must produce, before his examination, certificates of having attended a summer course of lectures on clinical medicine during his second year, and a winter course during his third. Physicians of hospitals, according to duty, are naturally desirous of doing all in their power for pupils. At the same time it must be confessed, that their lectures are seldom attended by the body of clinical students. Now, this is found to be due to an existing impression, both among students and some professors, that the certificates of such attendance, though stated as necessary in your printed rules, are not *imperative* or *essential*, but simply *formal*. I quite coincide with the important view which your Board takes of clinical instruction, but should like to be assured, on undoubted authority, that the rules laid down in this respect are really meant to be carried out, and that the Court intend to second the efforts of clinical professors by looking as much to their certificates as to those of others. So far as I can learn, similar impressions seem to exist amongst the students of other English schools, and therefore the Board, in their accustomed zeal for improving medical education, might, perhaps, with advantage, take some means of making their sentiments decidedly understood throughout the country. The clinical professors have no pecuniary interest in this matter, as all is included in the hospital fees; and therefore, while endeavouring to excite some zeal for practical study, they only desire the real welfare of their students. That much ardour to a certain extent does exist here, is proved by the fact of twelve gentlemen having put down their names voluntarily for examination by me; but I do think it only just to such as entertain the above impression, that the rule should be clearly understood, as in the event of any such impression being continued, and proving erroneous, they might, at the end of their three or four years of study, and just, perhaps, as they looked forward to some immediate appointment, find themselves in a very awkward and unexpected relation to your Board, such as might damage their worldly prospects through life.

I am, dear sir, your faithful servant,
D. NELSON, M.D., Edin.
Physician to the Queen's Hospital, and
Professor of Clinical Medicine.

Henry Blatch, Esq., Sec. to the Court of Examiners of the Soc. of Apothecaries.

Apothecaries' Hall, London, Dec. 27, 1850.

Dear Sir,—The Court of Examiners of the Society of Apothecaries have directed me to forward the following reply to your letter of the 12th instant.

"That the Court of Examiners do not

desire to limit or to define the plan to be used by the physicians of hospitals in delivering clinical instructions to their pupils; but the Court wish that it may be distinctly understood that they consider such instruction as imperatively necessary, and that attendance upon it should be enforced in such a manner as the physician may think expedient.

"The Court, in proof of their desire to encourage a regular and definite system of clinical instruction, beg to refer to the last copy of their Regulations, page 10, wherein it is stated, that a certificate of attendance upon a course of not less than seventy-five lectures on Clinical Medicine, delivered by a distinct professor, will be received in place of the second course upon the Theory and Practice of Medicine.

"But as some of the schools are not yet provided with distinct Professors of Clinical Medicine, the Court at present leave the mode of clinical instruction to be arranged by the physicians; but they repeat, that they consider such instruction to be *imperative* in all the schools, and that the part of the schedule appropriated to clinical lectures should be filled up only after a *bonâ fide* attendance, as in the case of the other lectures."

I am, dear sir, your obedient servant,

HENRY BLATCH,

Secretary to the Court of Examiners of the Society of Apothecaries.

Dr. Nelson.

THE PREVALENCE OF CHOLERA UNINFLUENCED BY A THUNDER-STORM.

IT is worthy of being recorded, that a terrific thunder-storm occurred in Dublin, on Saturday, the 1st of September, 1849. It commenced about 3 o'clock in the afternoon; very frequent and violent electric explosions were followed by torrents of rain, after which the sky cleared about 5 o'clock in the evening. But at 7 o'clock it again became overcast, and a continued deluge of rain poured down from that hour until midnight, during which the rapid succession of the thunder-peals, together with the appalling flashing of the lightning, fearfully recalled to the minds of those who had resided within the tropics, the recollection of one of the awful convulsions of nature usual in those regions. I looked forward with much interest to the effect of this storm on the state of the public health, and was anxious to see whether the common idea, that such an event would purify the atmosphere, and diminish the intensity of the epidemic, would in this instance be verified. But no such desired result followed; for the cholera rapidly increased after that day, and reached its maximum in the following week.—*Dr. Graves*, in *Dublin Quarterly Journal.*

Medical Intelligence.

STATISTICAL ACCOUNT OF ACCIDENTS BROUGHT TO THE LONDON HOSPITAL DURING THE YEAR 1850.

Admitted as in-patients . .	**2222**
Treated as out-patients . . .	**6977**
Total during the year . .	9199
In-patients—Male	1670
Female . . .	552
Total of in-patients . .	2222
Out-patients—Male	4865
Female . . .	2112
Total of out-patients . .	6977

Report of the 2222 In-patients.

	Discharged cured.	Died.	Remain in hospital.	Total
Fractures . .	395	32	75	502
Wounds . . .	399	14	24	437
Contusions . .	720	14	32	766
Sprains . . .	120	1	4	125
Dislocations . .	17	—	—	17
Concussions . .	33	4	—	37
Burns and scalds	107	29	21	157
Hernia . . .	30	9	5	44
Bites of dogs .	6	1	—	7
Attempts at suicide and poisoning . . .	20	4	1	25
Various . . .	89	6	10	105
Total . . .	1936	114	172	2222

DEATHS FROM ACCIDENTS IN THE WARDS OF CHARING-CROSS HOSPITAL.

IN 1846, 18; in 1847, 23; in 1848, 12; in 1849, 19; in 1850, 20. There are yet 10 accidents which were admitted in 1850 remaining on the books.

⁂ It would be desirable to have the total number of accidents admitted during these periods, in order to determine the per-centage of deaths from this cause.

BEQUEST TO UNIVERSITY COLLEGE HOSPITAL.

THE committee have received notice of a legacy to the Hospital, by the late Mr. Thomas Ansaldo Hewson, of £1,000, free of duty.

COLNEY HATCH ASYLUM.

THE report of the committee of visitors of Colney Hatch Lunatic Asylum stated that the original contract was entirely executed on the 31st October last, and the Asylum buildings upon that day placed in the hands of the committee of visitors, exactly 1 year 5 months and 23 days from the period of laying the foundation-stone by his Royal Highness Prince Albert: thus exhibiting a specimen of English enterprise, energy, and exertion which might vie with any yet upon record, and of which the County of Middlesex might well be proud.

THE LEECH A METEOROLOGICAL INSTRUMENT.

ABOUT eighteen months since, we published a communication on this subject from Mr. Attree. A provincial physician has since forwarded to us the following letter on the subject, which he published in a local paper about six years ago. The subject may be new to some of our readers.

"Sir—Believing that there are many of your readers among the plebeian class of society, who are equally anxious as ourselves to have some knowledge of the probable state of the weather during each successive day, but who are unable to do so through the usual medium—a barometer—on account of the high price at which such instruments are usually sold, I am induced to trouble you with the subsequent observations on a *leech*, as a weather glass, the cost of which is so very trifling that no member of society, however humble in station, need be without a weather glass, almost equal to the finest constructed barometer, and certainly, far superior to "Murphy's far-famed (?) weather Almanac."

"The following are the simple directions to be attended to:—Secure a leech in an eight-ounce phial three parts filled with water, with a piece of coarse muslin tied over the mouth of the bottle, taking care to change the water once or twice a week during the summer, and once or twice a fortnight during the winter months. The best position for the bottle is the bed-chamber window sill. During the continuance of serene and beautiful weather the leech may be observed to lie motionless at the bottom of the glass coiled up in a spiral form. If, on examination in a morning, it is found crept up to the top of its lodging, (where it will remain till the weather is settled) rain may be expected in the course of a few hours. On the approach of windy weather the poor prisoner glides through its limpid habitation with amazing swiftness, and seldom rests till it begins to blow hard. For some days previous to any remarkable storm of thunder and rain, it lodges almost continually without the water, and exhibits uneasiness in violent throes and convulsive-like motions. In frosty, as in clear weather, it lies at the bottom; and in snowy, as in rainy weather, it pitches its dwelling upon the very mouth of the phial."

⁂ We have found that the leech has succeeded in making a hole through the muslin, and escaping. We have employed woven copper gauze as a substitute for muslin.

THE INCOME-TAX AND ITS OPPRESSIVE EFFECTS ON GENERAL PRACTITIONERS.

[WE take the following from a daily contemporary. The picture is not overdrawn.]

"The usual argument in favour of the present method of assessment is stated in a few words. Income is only taxed whilst it lasts: the assessment, therefore, is fair. Let us now suppose the case of *a general practitioner in medicine*—of a man who, by the most unceasing labour, by the utmost anxiety and carefulness, is earning his £500 or £600 per annum in a country neighbourhood. We will give him every professional advantage—he shall be medical adviser in ordinary to the union in which he resides, he shall have contracted with the Grammar School and the young ladies' boarding establishment in the adjacent town to keep the systems of the pupils cool and comfortable for an annual sum certain. He shall be well with the squire; a sound Churchman, and on dining terms with the rector; and yet no violent party man, lest the Dissenting pneumonia of the country side should fly for relief to the opposition brass-plate in the county town. He can calculate the exact money-value of the zymotic, and strike an annual average upon the sporadic diseases within his beat. Altogether he is in as comfortable and permanent a position as any member of his class can occupy. There is nothing wanting to complete his felicity. He occupies a square white house neatly slated, with a little pill-box of brick and mortar attached, in which he himself or his assistant—who has paid him a premium—spreads the 'bergamy' pitch plasters, and 'exhibits' the aloes and jalap. Behind the house is the stable with two stalls, whose inmates are never destined to enjoy each other's society, as Mr. CAMOMILE drives one about all day and rides the other round the country all night. Now at the end of the year, with all his riding and all his pill-rolling, the unfortunate practitioner just manages to make both ends meet; for the time has come when little JOHNNY must go to school to be initiated in the niceties of Roman versification, with a view to making his way in the world at a subsequent period.

The eldest daughter, Anna Maria, too, must be gently led in the direction of Cramer's exercises, and be instructed in the art of hemming pocket-handkerchiefs. Poor Camomile, who was born with a kindly, genial soul, cannot but entertain the local dining club once a year at Opodeldoc Lodge, when the planned furniture of the dining and drawing rooms is divested of its brown-holland epidermis, and even the tissue paper which had been pinned round the broad gilt frame of Mrs. Camomile's portrait, for fear of fly-blows, is removed for that night only. The expense of that entertainment, which exactly equals Camomile's over-payment to the Income-tax, is probably the only expense throughout the year which will not bear the strictest investigation, but it helps, with his necessary outlays, to pull him down. The life, no doubt, is a hard one—a harder one than great politicians would readily imagine; but still, while health lasts, it is tolerable, and not without its compensation, to a man of honest and humane temperament. But the night comes, when poor Camomile, who has been roused from his sleep to assist at a premature birth, at some seven or eight miles distance from his own house, rides there through the pelting rain, and sits during the anxious night by the bed-side of his suffering patient in his wet clothes. A cough follows; he cuts off his dinner, but continues his rides; his symptoms become aggravated by exposure to the weather, and in a fortnight he is beyond the reach of his own skill, and in a fortnight and a day beyond saving by any physician upon earth. He goes where we all must go; but Mrs. Camomile, and Johnny, and Anna Maria, awake from their dream of security to find that their means of support are gone as well. They must content themselves with being—as political economists would phrase it—absorbed into the population. That is to say, when the two horses and the planned and other furniture, and the house, and the galley-pots are sold up, there is just enough to clear scores all round, and pay for the only spot of earth in which Camomile had known the peaceful rest of an hour since the day he first established himself at Opodeldoc Lodge. Why did he not insure his life for a few hundred pounds? will be the comment of many a strong-minded person upon this faint outline of a life. Simply because it pleased the Finance Minister of his country for the time being playfully to suppose that his income would inure to his children after him, and to mulct him accordingly. To be sure he might have dropped his annual entertainment to the members of the Hawthorn Dining Club—but then some of us come from one side of the Tweed, some from the other."

Selections from Journals.

POISONING BY CAMPHOR.

M. Schaaff relates that a villager of Neudorf, in Strasbourg, gave to each of her two sons, one of three, and the other of five years old, and to her infant, eighteen months old, a dose of about a *tablespoonful* (180 grains) of *powdered camphor* as a vermifuge. The first symptom which alarmed the mother was excessive pallor of the face, with a fixed and stupid look. Shortly afterwards delirium came on, with a sense of burning in the throat, and great thirst. Nausea, vertigo, and slight muscular twitching of the face, and later still—*i. e.* an hour and a half after the camphor had been taken—vomiting and convulsions followed, with loss of consciousness, and frequent desire to pass urine. These symptoms came on half an hour after taking the camphor, and varied but slightly in the three children.

Dr. Schaaff observes that he was most forcibly impressed with the scene on entering the room: to see the three little patients simultaneously the subjects of violent convulsions, their visages distorted, faces livid, and tormented with incessant vomiting.

The eldest was the most severely convulsed by a succession of clonic spasms, following each other at intervals of a few seconds only. His body was frequently rolled up together, and then suddenly and violently extended. The face, alternately pale and flushed, was the seat of incessant spasmodic movements; the eyes were convulsively turned up and down; a little froth escaped from between the teeth. The skin was cold, moist, and pale. At times only consciousness was entirely lost. Respiration was short and difficult. The pulse could not be counted. Vomiting, purging, and micturition, were incessant. The urine had the odour of camphor. The attack lasted for three hours, and was followed by a comatose sleep of several hours' duration, from which the patients awoke with some slight traces of the previous attack. The means employed were emetics, purgatives, and narcotics.

The second child suffered less than the eldest, and soon recovered his wonted health.

The infant died in about seven hours, not having manifested any return of consciousness from the first occurrence of convulsions.—*Journal de Chimie Médicale*, 1850.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Pharmacopœia Nosocomii in curam Morborum Cutaneorum fundati A.D. 1841.

Medicines, their Uses and Mode of Administration, &c. By J. Moore Neligan, M.D. Third Edition.

The Surgical Anatomy of the principal Regions of the Human Body. By Thos. Morton and William Cadge.

Observations on Cerebral Apoplexy at different Periods of Life. By Richard Quain, M.D.

On the Treatment of Cancer by the regulated Application of an Anæsthetic Temperature. By James Arnott, M.D.

The British and Foreign Medico-Chirurgical Quarterly Review.

Dr. Ranking's Half-yearly Abstract of the Medical Sciences. July to Dec. 1850.

The Scale of Medicines for the Merchant Service, &c. By T. S. Wells, F.R.C.S.

A Letter to the Right Hon. Sir George Grey, Bart. on some of the Social Relations of the Medical Profession. By George Robinson, M.D.

Introductory Address at Queen's College, Cork, on Medical Education. By A. Fleming, M.D.

The Divining Ring, or Odometer. By Dr. Herbert Mayo.

British American Medical and Physical Journal. Vol. 6, No. 9, Jan. 1851. Montreal.

The New York Register of Medicine and Pharmacy. Edited by C. D. Griswold, M.D. Vol. 1, Nos. 1 to 3, Oct. 1 to Nov. 1, 1850.

Edinburgh Monthly Journal of Medical Science. February 1851.

Gazette Médicale de Strasbourg. 20 Janvier 1851.

Annales d'Hygiène Publique et de Médecine Legale. Janvier 1851.

Comptes Rendus. No. 27, 30 December; No. 1, Jan. 1851.

Humboldt's Cosmos, by Sabine. Vol. 3, Part 1.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Jan. 25.

BIRTHS.		DEATHS.	
Males....	764	Males....	451
Females..	759	Females..	505
	1523		956

CAUSES OF DEATH.

ALL CAUSES	956
SPECIFIED CAUSES	953
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	311
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	47
2. Brain, Spinal Marrow, Nerves, and Senses	112
4. Heart and Bloodvessels..........	40
5. Lungs and organs of Respiration	192
6. Stomach, Liver, &c.	52
7. Diseases of the Kidneys, &c.	16
8. Childbirth, Diseases of Uterus, &c.	10
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin.............................	1
11. Premature Birth................	21
12. Old Age	35
13. Sudden Deaths..................	10
14. Violence, Privation, Cold, &c....	29

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	32	Convulsions........	25
Measles............	19	Bronchitis	75
Scarlatina	17	Pneumonia	70
Hooping-cough	46	Phthisis	113
Diarrhœa..........	20	Lungs	6
Cholera............	0	Teething	12
Typhus.............	41	Stomach	6
Dropsy	17	Liver..............	5
Hydrocephalus	23	Childbirth	4
Apoplexy	21	Uterus	5
Paralysis	18		

REMARKS.—The total number of deaths was 148 *below* the average mortality of the 4th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·85
" " " Thermometer[a] ...... 40·1
Self-registering do.[b] .... Max. 52° Min. 22°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·46.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 4° *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Dr. E. Whittle's paper on the Operation for Hernia shall be inserted, if possible, in the following number.

Mr. Robinson will find that his request has been attended to. We regret that there should have been any inaccuracy.

Mr. John Stansfield.—The party named is wholly unknown to us. We believe him to be a quack and an impostor. The pretended extract from the MEDICAL GAZETTE is a forgery.

The obituary notice of Mr. R. Thorpe shall be published next week.

We are obliged by Dr. Turley's communication, and will carefully look over the paper. We shall be glad to receive for publication some details on the saline treatment of Typhus fever.

Mr. Wyatt.—A private note shall be sent.

A Student.—Inquiry shall be made in the proper quarter, and an answer given. Our belief is that the delay is due, not to the editors, but to the dilatoriness of the contributors.

RECEIVED.—Dr. Armstrong—Dr. J. Bird—Dr. Semple—Dr. De Lisle—Mr. Holmes Coote.

CORRIGENDA in our last number:—

P. 142, col. 2, line 14 from foot, for "anencephalous," read "amyencephalous."

P. 161, col. 2, line 18 from head, for "azotized," read "non-azotized."

London Medical Gazette.

Lectures.

NOTES OF

CLINICAL LECTURES

(Delivered at Guy's Hospital, Dec. 1850.)

By John Hilton, F.R.S.
Surgeon to the Hospital.

In my last lecture I concluded with remarks on the treatment of ulcers within the direct embrace of the internal sphincter ani muscle, and recommended that, when two ulcers exist at the same time, you should divide the posterior of the two in preference to the anterior, for reasons which I then assigned. In continuance of the same subject, it remains for me to remind you that all ulcerations within the anal aperture are not necessarily the result, either of a scratch in the mucous membrane, or of a diseased condition of some of the follicles about the rectum; but that these ulcers sometimes owe their origin to a specific poison, and are in truth ulcers of a specific character,—or, in other words, chancres. These may in general be recognized by the ordinary characters of chancre occurring in other parts; their chief diagnostic marks being hard bases and raised edges, whilst they are the result of inoculation.

In the treatment of such specific ulcers it is an important point to determine whether it be right to divide the ulcer and the sphincter at once, according to the method of treatment adopted in the ordinary ulcer, or in the first place to endeavour to effect a cure by a constitutional plan of treatment. If the patient can lay by for a time, I would recommend you always to adopt the latter course in preference to the former; inasmuch as, when the sphincter has been divided, the cut surface of the wound may take on the same kind of morbid action, and assume the precise characters of the original ulcer: so that your safest and most judicious course would be to treat the specific ulcer by its appropriate remedies, as mercury, &c.; but if, after a time, you have reason to believe that the specific constitutional taint has been eradicated, and yet the ulcer does not heal, you can then with safety treat it in the ordinary method, by the division of the internal sphincter muscle.

Sometimes ulcers at the verge of the anus assume a decidedly malignant character, and give rise to considerable anxiety respecting their progress and probable termination. A case of this kind came under my notice, about four years ago, in a man of middle age: the disease did not present the usual characters of a common ulcer about the anal aperture, neither was there any evidence to show that it was of syphilitic origin. Nitrate of silver was repeatedly applied, but without producing any benefit; and the general aspect of the ulcer was quite of a malignant character. As there were no co-existing glandular enlargements about the rectum, I excised the ulcer, and removed at the same time a small triangular piece of the margin of the anus, including a portion of the sphincter; taking care to cut away the whole of the disease. The result was very satisfactory, as the patient recovered, and had no return of the disease afterwards.

If you have any suspicion in your mind that the ulcer is of a malignant character, do not divide the sphincter at once, under the idea that after all it may be merely an aggravated form of the common ulcer; for, by doing this, you will not afford the patient any benefit, but, on the contrary, do a great deal of harm, and at the same time materially interfere with the success of any subsequent operation.

At the commencement of my last lecture, I pointed out to you the various symptoms from which patients who are the subjects of ulcer within the direct embrace of the internal sphincter muscle very frequently suffer; and it is a somewhat curious coincidence, that within the last few days a case has come under my care, in which most of the symptoms there alluded to were well marked. A gentleman applied to my friend Dr. Golding Bird with symptoms which he thought were depending upon an ulcer at the anal aperture: this opinion, upon examination, proved to be correct. The patient had suffered severe pain, both during and after defæcation, for seven weeks previously; his bowels were constipated, and he had the greatest horror of having them moved, at the same time suffering all that fear, mental anxiety, and physical depression, so commonly met with in cases of this description: he was also suffering from those erratic and seemingly anomalous pains in the lower extremities, especially in the calf of the leg and neighbourhood of the ankle-joint. In addition to this he experienced pain over the sacrum and loins, as well as considerable irritability of the bladder.

I performed the operation of division of the sphincter muscle through the centre of the ulcer, which was about the size of a fourpenny-piece. This gave immediate relief to his pain, and freed him from those unpleasant symptoms, the cause of which was so remote from the part in which they manifested themselves. I have taken the present opportunity of relating this gentle-

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man's case to you, from its being an excellent illustration of several symptoms, caused by an anal ulcer, and some of which did not exist in the case which was brought before your notice at our last meeting.

Associated with this subject is another, of equal importance, which I have not previously spoken of, and the nature of which is very likely to be misconstrued, if its cause be not properly understood: I allude to those small ulcers occasionally observed in the fourchette in the lower part of the vagina,—a disease of by no means unfrequent occurrence, and of an exceedingly painful and sensitive character, and one which very often remains for a long time uncured. It originates in a diseased condition of the follicles in that part, being quite independent of any specific cause. The treatment must be conducted on the same principle as that for ulcer at the anal aperture, and consists in the division of the sphincter vaginæ, which is best effected by passing the bistoury through that muscle, on the same side as the ulcer, and about one-fourth of an inch above the fourchette; after which the ulcer, in general, speedily heals.

As connected with the surgery of this region, I shall next bring before you two cases of fistula in ano,—cases belonging to a class of diseases which will be frequently coming under your notice in practice, and the treatment of which requires to be modified by existing circumstances, which I shall point out to you in their proper place. The first case for our consideration, and which I will read to you, is headed—

Non-union after Operation for Fistula in Ano, occurring prior to admission into Guy's Hospital.

W. Q., æt. twenty-four, was admitted into Guy's, under Mr. Hilton's care, Dec. 4th, 1850.—States he is an Irishman by birth, and has been a soldier in the Queen's service for the last five years. He was out on furlough for a month, and came to Guy's for the purpose of being treated for fistula in ano, from which he has suffered for six months past. In appearance he is a stout, flabby, and somewhat unhealthy-looking young man; but states that he has enjoyed general good health, and was quite well up to six months since, when he first noticed a fulness, soon followed by a distinct swelling, between the anus and the scrotum, and somewhat inclined towards the left side of the median line. The swelling was very painful on pressure, but did not interfere with the passage of the fæces; it was attended with much constitutional disturbance, though without being preceded by any shivering. It continued increasing in size for three weeks after, and had assumed the size of an egg, when an opening was made by a surgeon, and about three ounces of exceedingly offensive pus, streaked with blood, was evacuated: this gave instant relief to his symptoms, and the abscess continued to discharge very freely. In about a week from that time the opening was enlarged; a small quantity of feculent matter passed through it, and continued to do so up to the date of his operation, which took place a short time afterwards. There was a copious discharge during the next two months, when it gradually ceased. The fistulous opening, however, has never properly healed; neither have the margins of the wound united, though he has been under treatment ever since. He is free from pain when quiet, and has perfect command over the passage of his fæces. His chief inconvenience is a constant sense of uneasiness whilst walking, or on sitting in a chair. His lungs are quite healthy; and there is no other apparent functional disturbance. On examining the part, the anterior portion of the sphincter and rectum had been divided in a direction directly forwards towards the perineum, and still remains so, but little, if any, union having taken place between the divided edges. There are also two fistulous sinuses,—one extending on either side of, and nearly around, the anus; whilst the other passes for some distance towards the right side of the rectum, where the probe can be distinctly felt through the mucous membrane.—He was ordered Castor Oil mixture twice a day, which acted freely on the bowels.

Mr. Hilton examined the rectum with his speculum ani, but was unable to discover any evidence of a communication between the external opening and the rectum, either by means of the probe, or by injecting water with a syringe through the external aperture—most, if not all, of which returned by the same orifice. On December 10th the operation was performed by introducing a grooved director, and first dividing, by means of the sharp-pointed bistoury, that part of the fistula running up by the side of, though, so far as could be ascertained, not communicating with, the rectum; after which, the fistulous canal running around the anus under the integument was treated in a similar manner. Oiled lint was now placed between the edges of the wound, and the patient was ordered to keep perfectly quiet in the recumbent posture.

11th.—He felt very comfortable: his bowels had not been moved, and there was no evidence of any constitutional disturbance.

12th.—The bowels have been moved, but without causing him much pain.

14th.—The wound discharges but little, is granulating slowly, and seems disposed to heal up from the bottom.—Ordered Potassæ Bicarbonatis, ʒss.; Infusi Cascarillæ, ℥j. ter die. Nitric Acid lotion to be applied to the granulating surface in order to stimulate it slightly.

16th.—There is not so much discharge as previously, and the fistula is filling up as favourably as can be expected.

24th.—The divided parts are decidedly uniting, and he expresses himself as feeling much better. From this time he continued daily improving up to Dec. 30th, when, his furlough being expired, he was compelled to leave the Hospital to return to his regiment. The wound at this date had healed considerably, and there seemed every probability of the operation being attended with success.

In this case you will observe that the fistula was situated in front of the anus, and between it and the scrotum. The patient had undergone one operation for laying open the canal prior to his admission, the result of which was unfortunate, no union having followed,—an event happily not of very frequent occurrence. The termination, however, suggests to us one important fact—viz., never to perform the operation without having previously ascertained whether there are any other co-existing diseases which may interfere with its success; and on investigating the different causes of these cases of non-union, they may be divided into the local and constitutional. On the present occasion, we shall only advert to the local; but do not forget that non-union after the operation for fistula in ano is frequently associated with disease of the hepatic and pulmonary organs. Of the local causes, a communication with the urethra may be mentioned amongst one of the first. This is a complication of the greatest importance to investigate and make out prior to performing an operation. Many cases have come under my notice in which the operation for fistula in ano has failed for want of this precaution being duly attended to. One case came under my care in which a communication of this sort existed,—the result of an ulceration in the urethra behind a stricture: the complication had not been suspected, and the perinæum had been divided into the rectum, so as to lay open the fistulous track, the consequence of which was that no union followed, and the patient could never retain his fæces after; but by passing the catheter, and keeping one constantly in his bladder, the opening in the urethra was closed, and the patient so far recovered. Another case of this kind came under my care last May, where the fistulous opening communicated both with the urethra and the rectum: having made this out, I declined performing any operation, but recommended he should keep on his back, and that a catheter should be kept constantly in the bladder, so that urine should never be passed excepting through the catheter. My patient persevered in this plan of treatment, but was unable to keep the catheter in his bladder, in consequence of the irritation caused by it. The frequent introduction of the instrument has been attended with decided benefit; notwithstanding, there is every reason to believe that he is the subject of phthisis,—yet, on hearing from him a few days since, he says he is much better in every respect, although a few drops of urine occasionally escape through the opening in the perinæum, which is of a pin-hole size, and some urine still passes into the rectum at each period of micturition.

The non-union in the case of the soldier did not depend either on any communication with the urethra or on any pulmonic complication, as indicated by the absence of all symptoms of these organs being affected, when taken in conjunction with the patient's previous history; whilst the healthy state of his chest was ascertained by a stethoscopic examination. The non-union, however, appears probably to have been the result of a too extensive division of the perineum into the rectum at the first operation. Such an extensive division of soft parts it is important if possible to avoid, in order to prevent an unpleasant termination, like that in the present case. If the fistula extends high up into the rectum—say, for instance, three inches—I would not advise you to divide the entire extent of the canal, but to operate on a smaller scale,—that is to say, after passing a director along the sinus, to divide that portion of the canal lying external to the curve of the sphincter muscle; after which the remainder of the track will most probably heal up of its own accord: but if, on the other hand, the fistula does not extend more than an inch and a half up the rectum, the whole extent may be divided without any fear of such an untoward result. This extensive division is not generally considered a cause of failure in these operations. I am fully persuaded, however, that it occasionally is so; and it seems to be a very probable explanation of the soldier's case,—an opinion which is confirmed by the present condition of the parts. Another cause of non-union is when several small fistulæ communicate with each other. In the present case there were two, both of which were laid open during the last operation; although, when these are quite superficial, the injection of a solution of nitrate of silver, black wash, or sulphate of zinc, will often be found sufficient to heal them. I am unable to complete the case, as the final result is unknown. It is, however, one of great practical interest, from suggesting some important considerations in reference to the operation, tending to show us one cause of failure, as well as how the treatment must be modified by existing circumstances, especially by the length of the fistula, and its depth in the soft parts about the rectum.

The second case for our consideration is headed—

Fistula in Ano—Operation—Recovery.

G. W., æt. 35, was admitted into Guy's Hospital, under Mr. Hilton's care, December 18, 1850. In appearance, he is a robust man, of plethoric habit. He was so deaf, that his previous history could with difficulty be obtained: his statements are, however, as follows:—That he is a married man, by occupation a shoemaker, of temperate habits, and has enjoyed general good health. About fifteen years since, he became the subject of fistula in ano, for which he underwent an operation; and the fistula is said to have healed up, but there is no evidence of a cicatrix. From that time he has experienced an occasional aching pain around the anus, especially after going to stool. About three months since, he first noticed a swelling in what he considered to be the position of the former fistula. This gradually increased in size, and gave rise to some amount of constitutional disturbance until five weeks since, when it opened of its own accord, and discharged an exceedingly offensive purulent matter; since which it has remained open, and continued discharging up to the period of admission; but, so far as he can judge, neither gas nor feculent matter have ever passed through the fistula. Ten days ago, another swelling formed on the opposite buttock, which burst about four or five days after, discharged very freely at the time, and then gradually it healed up. On examination, there is a fistulous opening on the left side of the anus, distant about one inch from it, along which a probe can be passed for some distance, though not into the rectum; and after repeated attempts it was found impossible to ascertain, by means of the probe, whether the fistula did or did not communicate with the rectum: this difficulty as regards diagnosis was overcome by injecting water somewhat forcibly into the external opening, the speculum ani having been previously introduced up the rectum, when, by carefully examining the walls of the rectum through the deficient portion of the instrument as it was turned round, water was at length observed to pass into the posterior part of the rectum, through a very small aperture, which, by the aid of the speculum, was rendereddistinctly visible. The patient is quite free from inconvenience during defæcation, but complains of an aching pain around the anus afterwards, as also of general weakness and pains in his loins. His bowels are habitually constipated. Appetite very good; sleeps well; there is no evidence of phthisis or any other disease.

20th.—He was ordered to keep in bed in the recumbent posture, and to take Castor Oil mixture twice a-day.

26th.—The fistula still discharges freely. His bowels are kept open every day.—Ordered a full dose of Castor Oil to-morrow morning, so as to clear out the bowels effectually prior to the operation.

27th.—The patient having been drawn to the edge of the bed, where he was placed upon his back, with his pelvis well raised, Mr. Hilton proceeded to lay open the fistula into the rectum, as follows:—The speculum ani was first introduced up the rectum, with the slide opposite to the internal opening; a grooved director was then passed through the external opening as far as it would proceed along the fistula, and a grooved probe, bent at an acute angle for the purpose, was introduced into the internal opening by the aid of the speculum, and directed downwards and outwards until the two instruments were close to each other. By means of a sharp-pointed bistoury, which was passed along the groove in the director, the soft parts, including the sphincter muscle, were divided, and the lower part of the fistula was laid open: the extremities of the two probes were thus exposed, when the upper portion of the fistula was observed to extend off in an angular manner, though perfectly continuous with the lower half of the fistulous canal. The upper portion was then divided with the bistoury from above to below, thus completing the division of all the soft parts between the two outlets. The upper part of the fistula formed a very narrow canal, the walls of which were distinctly visible after the operation by the aid of the speculum, and yielded a sensation of thickness and hardness to the touch, as if of a cartilaginous character. A piece of lint was placed between the edges of the wound, and a cold sponge was applied externally: there was no important hæmorrhage after the operation. The patient lay down in his bed, and was ordered to keep perfectly quiet.

28th.—The patient has slept well during the night, and feels very comfortable.

30th.—He was suffering considerable febrile disturbance: tongue furred, hot skin, quick pulse, and felt very thirsty. There was no evidence of any shivering, and the wound looked tolerably healthy. On the right side of the anus there is a red spot, as if a small abscess was forming, but at present there is no evidence of suppuration.—He was ordered poultice to the part, to keep in the recumbent position, and take a dose of Castor Oil. These symptoms, however, quickly passed off, and all trace of the superficial abscess disappeared. The wound healed up by granulations of a healthy character. He continued to do well in every other respect; so that, on January 11th, he was enabled to leave the Hospital cured.

This patient was operated on for fistula about fifteen years ago, and states that he has always been subject to occasional pain and uneasiness about the rectum from that time. Judging from this, as well as from the thickened condition of the walls in the upper portion of the fistulous sinus,—evidently showing that that part was not of recent date,—I am disposed to think that the fistula was not completely divided at the first operation; thus accounting for his uncomfortable sensations in the neighbourhood of the rectum since that time. When the abscess was opened, it has been already stated that the discharge was of a very offensive character; and I would wish you to bear in mind that this is generally the case when an abscess forms in any situation near the intestinal walls. This highly offensive character of the pus, so commonly observed in these cases, is no proof whatever that the abscess communicates with the rectum, even although it should have a decidedly feculent smell, or if gas should escape when an opening is made into the abscess externally. Pathological anatomy teaches us beyond all doubt that it may acquire this peculiar odour from its situation alone, especially when near to the cæcum or colon, or rectum: this fact I have proved by frequent dissections made for the special purpose of ascertaining whether any communication existed between the abscess and the intestinal canal. It appears to depend on the imbibition, or rather on the passage of those gases common to the intestines, through the delicate wall of the gut, according to the law of endosmose and exosmose: the gas being once in the abscess, acts upon the pus globules, and thus engenders a continuous process of decomposition, which ultimately leads to a highly fetid condition of the pus, and the formation of more gases. The knowledge that an abscess does not necessarily communicate with the intestines, even although the fœtor of its contents would seem to indicate it, is a fact which may frequently prove a source of congratulation to yourself, as well as of satisfaction to your patient, especially when the abscess is in the lumbar or iliac regions.

The indications for treatment in these cases are to keep the patient in the recumbent posture for two or three days prior to the operation, the chief object being to get the parts in a more healthy condition, as not unfrequently, either from the irritation caused by standing or walking, the parts become hot, swollen, and somewhat inflamed; and if the operation were performed at once, without a due consideration of these circumstances, the chances of success would be very much diminished. This I am particularly anxious to impress upon your minds, as you will find it contribute materially to your success in practice. Oleaginous purgatives should be exhibited for two or three days previously, and a full dose of castor oil on the morning of the intended operation, so as thoroughly to evacuate the bowels, and thus to do away with the necessity of an evacuation for several days afterwards. The next thing to be done is to divide the sphincter and soft parts into the rectum, and so to lay open the fistulous track: whether this should be done through its entire extent would, as has been previously stated, depend on the length of the canal.

On applying our remarks to the case now under consideration, we observe that the external opening was distant about one inch from the anal aperture; and the first thing to be done was to endeavour to pass a probe from one aperture to the other,—that is, from the external opening through the fistulous canal into the rectum, so as to make certain whether the fistula did or did not communicate with the rectum: this could not be accomplished; and it did not at first seem improbable that the case was merely one of blind external fistula, having no communication whatever with the rectum; whilst several points in his history—especially his never having passed any gas or fæces through the fistula—seemed to favour such an opinion: but did this justify us in arriving at a conclusion that no communication existed between the fistula and the rectum?—Certainly not: the passage of fæces might easily have been prevented by the character and direction of the internal opening. All doubt, however, on this point was speedily cleared up by injecting water with a syringe into the external opening, care being taken at the time to prevent it from returning immediately by the same orifice: by these means the existence of the opening into the rectum was easily detected, and, by the aid of the speculum, its exact position, small size, and peculiar character, were rendered distinctly visible. The injection of water is a test by which you can at the same time determine whether more than one opening exists in the gut. In the present case there was only one opening, through which the water quickly passed,—demonstrating all that was required, without causing any pain to the patient; clearly showing its advantages over the probe, which will not unfrequently be found to fail. The cause of failure with the probe in the present instance was quite apparent after the operation, and depended on the canal taking an irregular course; the upper portion appearing, as it were, to branch off at a right angle from the lower.

The internal opening of the fistula in this case was in that position where it is most frequently met with,—viz. about one inch above the internal sphincter: this was pointed out by Ribes and others, and has been more recently confirmed by surgeons of this country. Its exact position can now be more easily made out by means of the speculum, and injecting water into the external opening. If you cannot see in what part of the rectum the water first makes its appearance, which sometimes occurs in consequence of the translucency of the water, some coloured liquid should be substituted for it, when the escape through the internal opening will be immediately observed. But even after we had discovered the exact position of the two openings in this case, and proved that they communicated, as shown by the passage of the water, still it was impossible to pass a probe from the one to the other; and the question then arose—What should be done? as it was important for the! success of the operation that the entire length of the fistula should be divided. This difficulty was overcome by passing a director through the external opening, and up the canal as high as it would go; when a probe, previously curved on purpose nearly to an acute angle, was introduced through the internal opening, which was rendered visible by the speculum, and passed down the fistula until it came nearly in contact with the director: the probe was then steadied by the hand of an assistant, and the sphincter and soft parts between the lower part of the canal and the rectum were divided, immediately after which the upper or intestinal portion, which was quite superficial, and occupied by the grooved probe, was served in a similar manner. The walls of the fistula near its upper and lower openings were quite of a different character, those on the upper half being thick, hard, and almost cartilaginous, and lined by a thin, delicate, smooth, pseudo-mucous membrane; whilst those of the lower half were thinner, evidently of more recent date, and the lining membrane presented a minutely granular appearance.

If the fistula does not happen to extend deeper than one inch and a half up the rectum, you should always endeavour to divide its entire length, especially the intestinal end of it,—otherwise, in many cases, it remains open; and, when the rest of the sinus has healed, it allows a small quantity of feculent matter to enter, which becomes a source of irritation, leads to the formation of another abscess, and subsequently to another fistula; so that, unless this is discovered and laid open, you will not place the patient in a condition to expect a favourable termination, and at the same time deprive yourself of the conscientious satisfaction of knowing that you have done your duty towards him.

After the operation, provided there be no hæmorrhage, you may withdraw the speculum: a small piece of oiled lint should then be inserted between the edges of the wound, so as to cause the parts to heal up from the bottom by granulation. This was done in the case related. The patient is now nearly recovered, and there is every reason to believe that he will continue well, without any return of the fistula.

The intention of the operation for fistula in ano in dividing the sphincter, is to allow the inner wall of the fistula to come in contact with the outer,—a circumstance which the sphincter, when entire, always tends to prevent. Within a short time after their approximation the two walls granulate and become adherent, whilst the sphincter is subsequently repaired by the white fibrous tissue. If the precaution is not taken to introduce a piece of lint, the divided edges of the wound will be likely to unite by adhesion, without the fistula having become obliterated. Prior to performing this operation, I would always advise you to examine the rectum carefully, to ascertain if any large artery lies in your intended line of incision. Such a discovery as this would alter your method of operation, so as to avoid wounding it, if possible; and, in concluding my remarks on this operation, I am anxious to impress upon your memory that, although, in most cases, you should endeavour to lay open the entire extent of the fistula, by cutting through all the soft parts between the two openings, still that, under occasional circumstances, certain modifications in the operation must be adopted: and the two conditions in which these modifications are especially called for are—1st. When the fistula extends high up into the rectum: by dividing its entire length you will run the risk of dangerous hæmorrhage at the time, and of subsequent non-union. Under these circumstances you must be satisfied with dividing the sphincter and lower part of the fistula, after which the upper portion will most probably heal up of itself. The second condition under which the operation must be modified is when the fistula has a very extensive track in the soft parts external to the anus: thus, for instance, extending forwards towards the perineum, or laterally towards the buttocks; whilst its intestinal opening will, in all probability, be only just above the sphincter ani. Under these circumstances, do not divide the whole length of the sinus; but, having passed your director through the canal, as in the ordinary operation, cut into the director external to the sphincter, divide it and the intestinal end of the fistula, after which the remainder of the fistulous track—that is to say, the external portion which has not been laid open—will most probably heal up. In case, however, it should not do so, some stimulating injection—as black wash, nitrate of silver, or sulphate of zinc, in solution—may be thrown into it, for the purpose of favouring the process of granulation or adhesion. I have performed this modification of the usual operation in two cases: in one it was attended with speedy and complete success; the second case I lost sight of too soon to enable me to express a decided opinion; but, so long as I had an opportunity of observing it, it promised to do well. Some difference of opinion prevails respecting the primary cause of fistula in ano: it is the opinion with some surgeons that it originates primarily in an ulcer in the mucous membrane of the rectum, leading to inflammation and abscess external to the mucous membrane, which soon after opens into the intestine; and this permits tha entrance of fæcal matter into the abscess: this again gives rise to the formation of another abscess, which burrows down in the cellular tissue external to the rectum, and at last leads to the completion of fistula. But it does not appear to me that this is the correct explanation of the primary cause, inasmuch as facts and analogy between this disease, and diseases occurring in other parts similarly situated, do not tend to this conclusion. In the first place, we know that persons are very frequently the subjects of ulcer in the rectum without its ever being followed by abscess, and that the ulcer may exist for months without giving rise to it; whilst the co-existence of abscess with ulcer of the rectum is a very rare occurrence. These facts are all important as a negative evidence, tending to show that this is not the primary cause. But there is another light in which it must be regarded: the internal aperture of the fistula is in general, if not always, exceedingly small. Now if the original cause was an ulcer in the mucous membrane of the rectum, it is not at all likely that the internal opening would be about the size of a pin's head, or perhaps double that size. Another argument is, that we cannot discover any analogy between this supposed cause of fistula and ulcers occurring in other parts of the body similarly situated. Thus, for instance, an ulcer in the nose is not followed by abscess in the walls of the nose; neither is an ulcer in the pharynx followed by abscess in that part. The same remark holds good when applied to the urethra: an ulcer in the urethra is not followed by abscess near its walls, unless extravasation of urine takes place previously. Indeed, there is no canal in the body in which a precisely analogous and supposed condition is observed. Again, that kind of fistula generally called the blind external fistula—viz., when no communication exists between it and the rectum—is a variety of the disease itself, tending strongly to disprove this idea: so that, judging from these facts, I think we may safely infer that an ulcer is not necessarily the primary cause of the abscess near the rectum which gives rise to fistula; and that, when the two exist at the same time, it must be regarded rather as a coincidence than that they bear a direct relation to each other. The more probable cause of fistula, perhaps, stands in some relation to an inflammatory condition of the walls of the hæmorrhoidal veins, owing to the circulation through them having been retarded for many hours, produced by standing, or by sitting for a long time on a hard seat, or by riding on horse-back, or, as I have known it to occur, from sitting on the damp ground.

TWIN BIRTH, IN WHICH THE SECOND-CHILD WAS BORN EIGHT DAYS AFTER THE FIRST.

Dr. Behr relates the case of a woman, 40 years of age, who gave birth to a child at half-past 12 in the day of the 29th April, and to a second at 6 o'clock in the morning of the 3d of May, 1849. Both the children were females. The first child lived an hour; the second, which had been felt to move in the uterus a short time before delivery, was born dead. The pregnancy was at or about the sixth month. The second fœtus only was seen by Dr. Behr: it was about a foot long, and weighed more than a pound. The first child was born with a natural presentation; the second was born footling. The double placenta weighed about three-quarters of a pound. As the second fœtus was being expelled the mother was seized with such severe rigors that it was necessary to hold her on the bed. Immediately after this, profuse uterine hæmorrhage occurred, which compelled the midwife to call in Dr. Behr. The patient had been in want of sufficient food during the week, and had been imprudently permitted to leave her bed to follow her household duties. Peritonitis followed, and the woman died on the 21st of May.—*Casper's Wochenschrift*, 1850. X

Original Communications.

A CASE OF

PARTIAL RUPTURE OF THE MIDDLE PORTION OF THE EXTENSOR CARPI RADIALIS LONGIOR MUSCLE,

WHERE IT BECOMES SUPERFICIAL BETWEEN THE SUPINATOR LONGUS AND THE EXTENSOR CARPI RADIALIS BREVIOR;

With some Remarks on the term Sprain, *and the importance of rightly diagnosing between the nature of Concussion of the Cartilaginous Structure from Laceration, either Partial or Complete, of the Ligamentous, Tendinous, or Muscular Tissues.*

By John Grantham, F.R.C.S.E.

George K——p, aged twenty-seven years, a tall powerful man (bricklayer), complained to me, in the early part of this month, of acute pain over the region of the middle part of the extensor carpi radialis longior, which had increased with great severity from the time of the injury, December 24th, 1850, until the ninth day after the accident. On examination of the arm, I found an elevation of the skin, without tumefaction, with distinct laceration of the muscle midway, or rather lower than the middle portion of the radius. On making movements with the other extensors of the hand, I definitely distinguished the injury to be one referable only to the extensor carpi radialis longior, which was puckered up, with a depression above the part of elevation. On inquiry as to the cause of such an injury, I learned he had been raising a long ladder, being a heavy fifty-four round ladder, and had unduly received the weight of the ladder on the ball of the index finger; in an instant, so imperfect was the power of flexing the hand, that he felt unable to hold the trowel with any reasonable degree of firmness.

The treatment consisted in the application of hot baths, with stimulating embrocations, and complete rest of the limb, succeeded by gradual pressure or support to the arm by the application of a flannel roller.

He is now so far recovered from the ruptured muscle, as to be enabled to resume his employ, although the power of contraction of the muscle is yet imperfect. I wish to remark that I have known rupture of the muscles take place from two causes:—the action of antagonist muscles, or another power which distends a relaxed muscle, or by the action of the muscle itself; and in this latter case the rupture commonly takes place at the union of the tendinous or aponeurotic parts with the fleshy fibres, of which a small number are generally found broken.

The common interpretation of the word "Sprain" or "Strain," is defined to be a violent distension of a ligament or ligaments,—a word inaptly used, as the term extensibility does not pertain to the ligamentous or tendinous structures of the body. Rupture or fracture may take place in these tissues, but *not extension*: such is my experience; and it accords with the remarks of P. A. Béclard. At page 228, he says—"It has hardly any extensibility when the effort is sudden; whence the strangulations produced by the ligamentous parts, and the lacerations of this tissue by violent distensions." Also from the same author is the following observation:—"The tenacity or power of resistance in this tissue to rupture is enormous; it continues unabated after death." This structure has no irritability or vital contractility; nor can the motions of contraction alleged by Baglivi to have been observed by it, or the oscillatory motions supposed by La Case, be admitted. The function of ligament is that of forming a firm band to tie the articulations of the joints. I am aware that this statement is at variance with M. Dupuytren's remark, at page 255,—namely, "violent distension of ligaments commonly entitled sprains."

Yet I feel satisfied sprain, or rather what is surgically understood by the word sprain, is not, abstractedly speaking, the extension or stretching of a ligament: this I am endeavouring to prove is no mean fact in making a correct diagnosis of an injury. The following case, although of common occurrence, will more fully elucidate the argument of this paper:—

A gentleman sent for me on account of an accident he had received on the previous evening, producing what he termed a sprain of the foot. He made a false step from off a chair, and fell on the outer or fibular part of the foot: at that instant he felt a snap on the back part of the leg, one-third, or thereabouts, from the heel, attended with most acute pain in the ankle-joint: the pain was at first confined to the inner side of the foot, over the region of the inner malleolus and fore-part of the astragalus,—so great as to prevent his bearing any weight on the joint; subsequently it extended to the side and dorsum of the foot, with heat and swelling, and with great tenderness,—the pain most acute at the inner side of the ankle-joint. On manual investigation, I detected a fracture of the fibula at its lower third, denoting there had been *partial lateral dislocation* of the ankle-joint: yet it was also evident the concussion or shock of the fall was received on that part of the tibia which forms the inner malleolus and the upper and inner lateral surface of the astragalus. The shock being received on that part of the tibia accounts for a principle asserted,—that, if a vertical line be dropped from the middle of the femur, it falls on the upper and inner part of the astragalus. In this case I inferred there was concussion of the cartilaginous structure forming the inner part of the ankle-joint, partial dislocation without ligamentous laceration, and fracture of the fibula. In the treatment, my first object was to pay attention to the effects of concussion; and secondly, to secure the fractured fibula. Accordingly, I directed the foot to be immersed in a hot bath twice a day, and a hot bread, water, and vinegar poultice to be kept on during the intervals, at the same time keeping the leg in the horizontal position. On the third day I had the foot and ankle enveloped in wool wadding, and a stimulating embrocation used three times a day. On the fifth day I supported the leg and foot with a piece of gutta percha along the region of the fibula, and a flannel roller applied from the foot up the leg I now permitted gradual pressure to be made on the foot; and at the end of the month the patient walked without pain, and but with little inconvenience.

I relate this case as an example of the great utility of attending more to the injury done to the cartilaginous structure than to a muscular. It also supports my theory (vide Facts and Observations, p. 66) of the importance of not reducing the power of these lower structures by cold applications and leeches,—a principle which has endangered, if not destroyed, the utility of many a joint; and, were it not I might be thought censorious, I could adduce several facts in proof of this statement. Also it must not be forgotten that pressure kept up on an inflamed low structure like cartilage is equally injurious, and prevents the well-doing of those accidents which arise from concussion between two or more of the bones of the body: so that I infer pain is not to be referred to the ligaments, but to the effects of concussion of the more vitalized part of the cartilaginous structure, including the deep cellular tissue.

Crayford, Kent, Jan. 31, 1851.

ON THE

OPERATION FOR HERNIA WITHOUT OPENING THE SAC.

By E. Whittle, M.D.,
Honorary Surgeon to the Liverpool Dispensaries.

The interest which appears to be felt at present in the question of operating for strangulated hernia without opening the sac, will afford, perhaps, a sufficient apology for my offering some brief remarks upon a case which occurred in my practice during the last year.

I was invited to see in consultation an infant exactly five weeks old, which was supposed to be suffering from strangulated hernia. The symptoms of strangulation had persisted for sixteen hours before any advice was applied for: the tumor had appeared suddenly on the previous day, and no fluid could be detected in it: the testicle could be felt at the bottom of the swelling. Judging from the mother's history of the case, and from these points, that the case was one of infantile, and not congenital, hernia, and the taxis having been already employed repeatedly in vain, we soon decided upon the propriety of operating. Chloroform was administered by putting a few drops on a piece of lint, and holding it before the infant's mouth for two or three minutes. The skin and fascia being carefully divided, the tunica vaginalis was exposed, with a stricture tightly embracing its neck at the abdominal ring: this was divided with a probe-pointed bistoury, after which a slight effort was sufficient to reduce the intestine, which was returned into the abdomen without opening either the tunica vaginalis or the hernial sac. The little patient was relieved for a time, the vomiting ceasing, but the bowels were never opened; and after a few hours the symptoms of strangulation returned, and the child died within twenty-four hours after the operation.

The post-mortem examination revealed the cause of the fatal result, which was not strangulation of the intestine by the neck of the sac; on the contrary, the sac merely consisted of a fold of peritoneum which had been carried down the inguinal canal before the knuckle of intestine which had got caught in the ring: the peritoneum about the ring was vascular and deeply coloured, and could be easily pushed into the ring by the pressure of the finger; the strangulated knuckle of intestine lay loose in the cavity of the abdomen, still held tightly in the contracted knuckle-form (which it had acquired in the ring) by little bands of recently deposited soft lymph, stretching across the bent intestine, and effectually preventing its yielding into a longitudinal direction, so as to permit the passage of the fæces.

Now I believe this case might have ended more happily had the sac been opened, and these slight adhesions been broken up by drawing down the intestine a little before it was returned into the cavity of the abdomen. The objection generally urged to operating without opening the sac is, that the neck of the sac is itself very frequently the seat of the stricture; but in this case, the neck of the sac being quite free from stricture, we have a cause of permanent occlusion of the bowel by the deposit of adhesive lymph upon the folds of strangulated intestine within the sac.

The features presented by this case appear to me rather to weigh against the proposal to return the hernia without opening the sac,—at least in the case of infants, in whom the effects of inflammation are developed with so much more rapidity than they are in adults. If this question can only be decided by comparing the results of cases, whether they end favourably or not, this contribution from my limited experience will not be without its value.

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

By James Bowen Thompson, A.B., M.D.,

Formerly Physician to the Royal General Dispensary, Aldersgate Street; late Chief Medical Officer to the British Hospital, Damascus, and Inspector of Health for the Turkish Government; One of the Hon. Secretaries of the "Epidemiological Society;" Fellow of the Medical Society of London.

From recent official reports and returns kindly furnished me from Her Majesty's Colonial Land and Emigration Commissioners' Office, by Mr. Walcott, their Secretary, it appears that in the course of the last *twenty-five* years the average annual emigration from the United Kingdom to all places was about 91,407; making a total for the whole period, 1849 inclusive, of 2,285,184: the report for 1850 will be 240,000, when made up.

Amongst the intending emigrants, then, it is obvious there must be thousands to whom the subject of climate is of vital importance, and who, *ceteris paribus*, would naturally select for their future home that country the climate of which may be most congenial to their constitutional peculiarities.

According as it embraces numbers or individuals, the value of human life is the safest or most uncertain subject of calculation. Experience has proved that out of a given number of individuals the proportion who shall die at any period of life may be foretold with wonderful precision. But beyond this our knowledge cannot penetrate; the value of the life of any particular individual is above all human calculation. Of any given body of men, we may be able, with considerable accuracy, to state the number who shall be living at the end of twenty years; but the most intimate and minute acquaintance with their several temperaments, habits, and constitutions, will not enable the most skilful and experienced to select from among them the few who shall survive.

The progress which has been made in the practice of medicine during the last century, the great improvement that has taken place in the quality of the food, clothing, and habitations of the labouring population of this country, have had a striking influence on the general value of life. A century ago, the annual number of deaths out of every *thousand* persons was *forty;* but of the same number, the annual amount of deaths does not now exceed, even in sickly seasons, that of twenty.

Thus the expectation of life, to use the language of the actuary, to every member of the community, has been doubled. As the character of our climate during that period has undergone but little variation, it must be obvious that, though the influence of climate is unquestionably considerable, it is but one of many circumstances to be taken into consideration in accounting for the varying ratio of mortality observable among the people of different countries. Indeed, there is scarcely any subject on which more fallacious results have been obtained, and more erroneous opinions entertained.

In investigating the ratio of mortality in different communities, therefore, it is not sufficient to compare the ratio of the deaths to the population; but regard must also be had to age, sex, and a variety of circumstances, before any reliance can be placed upon the result

The ratio of mortality to the population in England is, generally speaking, about one in fifty. Now suppose that, on inquiry, it should be found that in New South Wales, Van Diemen's Land, New Zealand, or any of our possessions in the East, in China, India, or the Levant, the ratio is one in one hundred only,—it might be inferred that these latter places were twice as healthy as our own country; but this conclusion cannot be relied on, unless it appear that in either country there is the same proportion of persons living, of the same age: this, however, is far from being the fact. In England the number of children greatly exceeds the adult population; but in New South Wales, especially while it was a penal colony only, the whole population was adult. Now it will be found that in this country one half of the number born die before they reach the age of maturity: it is evident no opinion can therefore be formed of the comparative ratio of mortality merely from the proportion the annual deaths bear to the whole population.

Again, if we were desirous of ascertaining the comparative healthiness of a town and country life on persons between the ages of twenty and fifty, it would not be safe to decide in favour of a country life, because the number of deaths out of a given number of the whole population would be found to be considerably less. Out of 1000 individuals of all ages, in London, the deaths are 241; but out of the same number in the counties of Hertfordshire, Bedfordshire, and Buckinghamshire, they are only 192: but then it seems that, of 10,000 persons living in London, there are 4,522 between the ages of twenty and fifty; while the number of the same age in the adjoining counties is only 3,581;—an unequal relation therefore existing in the proportion of persons living of the same age.

The mortality arising from phthisis is commonly stated to be about twenty-five per cent. in England, Austria, Prussia, Switzerland, and Belgium; twenty-three per cent. in France; seventeen per cent. in St. Petersburgh and New York: while in some parts of Africa, in Egypt, and amongst various tribes of mankind in the torrid and frigid zones, the disease is almost unknown. The Bedoueens of the Desert, and the Laplanders, are exempt from tubercular diseases: so were the aboriginal tribes of our Polynesian possessions until disease and dissipation were introduced from Europe; the latter decimating, and in most instances causing the total extinction, of many tribes in Van Diemen's Land especially. The numerous cases in which its progress has, for a time at least, been arrested by an *early* removal to a climate free from frequent and sudden vicissitudes of temperature, confirm the opinion as to the influence of climate, and that its preventive and remedial effects must be measured rather by its equability than by the degree of its temperature. The duration of life in the least healthy districts of England exceeds considerably that of the most favoured parts of the Continent; and that very disease, once considered almost peculiar to this country, being, in fact, no less prevalent in the latter than the former. In the time of Celsus even we find a removal from Italy recommended. "Quod si mali plus est, et

vera phthisis, inter initia protinus occurrere necessarium est; neque enim facile is morbus cum inveteraverit, evincitur. Opus est si vires patiuntur, longa navigatione, cœli mutatione, sic ut densius quam id est ex quo discedit æger, petatur: ideoque aptissime Alexandriane et Italia itur."

Tubercular disease was not known in any of our Colonial or Foreign possessions till after our intercourse with the aboriginal inhabitants. There is scarcely an instance in which the first unrestrained contact with civilization has not proved injurious to a barbarous people. Before the effects of his own expeditions had time to show themselves, Captain Cook describes the New Zealanders as almost free from disease of any kind. "As there is no source of disease," says he, "either critical or chronic, but intemperance and inactivity, these people enjoy ***perfect and uninterrupted good health:*** we never saw a single person among them who appeared to have any bodily complaint." The disease of tubercle is unknown amongst the Egyptians: it therefore becomes a matter of great importance to ascertain the general character of the climate of those countries which are wholly or comparatively exempt from the disease.

Alexandria is described "as at all times excessively damp." The atmosphere is saturated with a saline vapour, which condenses on the walls of the houses in small crystals of nitre, muriate of soda, and muriate of ammonia: the soil is everywhere coated with these saline particles; and although it is quite impossible to keep any articles made of iron free from rust, yet the constant breathing of this saline atmosphere does not appear prejudicial to health. Diseases of the lungs are unknown; and not one case of consumption has been observed among the Bedoueen Arabs.

This saline dampness of the climate is attributed to the prevalence of the wind from the Mediterranean, which for a great part of the year carries the clouds towards the mountains in the interior; and also to the great evaporation from the Nile. Tubercular disease is comparatively rare in the Channel Islands also: the greater portion of the cases, too, occur amongst those who have visited the country already tainted with the disease, and not amongst the Islanders themselves. In its peculiar dampness, the climate of these islands bears a striking resemblance to that of Alexandria. Their temperature, however, is not more than five or six degrees higher than our own. This arises, in a great measure, from their insular position. These islands, too, are everywhere thick-set with wood, with an imperfect system of drainage, or no drainage at all; the prevalence of the winds from the south-west blowing directly up the Channel from across the Atlantic Ocean, impregnated with moisture and with saline particles, that cause the moisture to be more slowly dissipated into vapour,—the great secession of the tide at low water leaving all around the island a vast extent of bare rocks and sands, from which saline vapours largely arise, in consequence of the comparative warmth of the temperature, even during the winter months; while these vapours are scattered in all directions by currents of air arising from the great diversity of the islands in hill and dale. Until very recently, change of climate was never resorted to until disease had not merely commenced, but had all but run its course. Under these circumstances, it is not to be wondered at that the most genial climate failed to prevent a fatal termination. It is stated by Dr. Renton, that, between 1827 and 1830, nineteen patients labouring under ***confirmed phthisis*** arrived at Madeira, the whole of whom died, the greater number on the island, the remainder after returning to England. The legitimate conclusion from such a fact would be, that, after reaching a particular stage, change of climate is ineffectual to arrest the progress of the disease; but, as is generally the case under similar circumstances, an opinion was beginning to be formed that change of climate is wholly inoperative, either to prevent or to cure. It is now resorted to at an earlier stage, and with very different results; proving the correctness of the adage that "Prevention is easier than cure." Of thirty-three cases of incipient phthisis which arrived at Madeira during the abovementioned period, twenty-three had returned to England, and were at home in June 1830, apparently in good health; two remained in the island—one apparently well, and the other considerably better since his arrival, but still in a doubtful state; two died in the island, and another after leaving it; but the result of the remaining six is not known. It is a fact worthy of mention here, that patients labouring under tubercular disease who have gone to any of our Polynesian colonies, and adopted the life of a Squatter, or gone into the Bush, as it is there called, have invariably got better, and were free from ill-health during their stay in the interior; but found, on their coming into any of the towns, that they did not feel so well, and were reminded of their delicacy of constitution: and a return to England was sure to be attended with an aggravation of their former complaints, and in many instances proved fatal, unless they returned soon again to the colony. It is strange, too, that invalids of this class will find less inconvenience from a winter in North America than they would experience in this country. This was the case in a patient—Mr. Clark, veterinary surgeon, of Giltspur Street—whom I attended in October 1843, in company with my friend, Dr. Hodgkin. This gentleman suffered much from the winters in England, and the last accounts from him were very favourable, and corroborative of this fact. The mode of living in the Bush is one of the most simple, and at the same time, perhaps, best calculated for this class of patients. The diet is purely farinaceous, with plain dressed meat and the best of vegetables, good milk and butter, and no stimulants; mild balmy air, an equable temperature, and healthful agricultural avocations, with a considerable share of horse exercise. Shooting, and hunting the kangaroo and native Australian dog, form the agreeable field-sports of the squatter in his leisure hours.

In England, the situations found to be most congenial to phthisical constitutions are the south-west coasts of Devonshire and Cornwall. The parts most frequented by invalids are Penzance, Torquay, Dawlish, Sidmouth, and Salcomb. From their proximity to the sea, and the prevalence of westerly winds loaded with moisture exhaled from the Atlantic, the air is remarkably soft, humid, mild, and equal. Torquay and Penzance, perhaps, enjoy the highest reputation: the very limited range of their daily and annual temperature, and the peculiar softness of the atmosphere, render them most desirable for the residence of persons suffering from pulmonary disease; and now that the climate of Italy and France, especially the south of that country, is becoming better known, the south-west of England is considered superior to any part of the south of Europe, and inferior only to that of Madeira, the Azores, or New Zealand, which is the Madeira of the South Seas. (See my reports in the LONDON MEDICAL GAZETTE, of the 25th of August, 1843; and the 5th and 26th January, 1844.)

With reference, therefore, to the influence of climate, it would seem that, in the temperate zone at least, the circumstances which characterise those climates that exercise the most beneficial influence are a temperature equable or limited in its range, and an atmosphere holding in suspension a considerable quantity of saline moisture.

Islands participate more of the temperature arising from the sea, and are, therefore, warmer than continents. The soils of large tracts of land have their share in influencing the temperature of the country; thus stones and sand heat and cool more rapidly, and to a greater degree, than mould: hence the violent heats in the sandy deserts of Arabia and Africa, and the intense cold of Terra del Fuego, and other stony countries in cold latitudes, as the penal settlement of Siberia, in North Russia. Vegetables considerably affect the temperature of a climate: wooded countries are much colder than those which are open and cultivated. Hence our North American possessions are every day becoming more congenial to even delicate European constitutions, as the clearing away of woods lessens the vapours, and consequently diminishes the quantity of rain and increases the temperature. A mountainous country, too, is almost always more subject to rain than an open champaign country. The hills attract vapours, which, being condensed, descend in frequent showers: in this respect the difference is very considerable in various parts of England. In the neighbourhood of London the annual quantity of rain varies from twenty to twenty-five inches; while in Cornwall and the mountainous districts of Westmoreland and Cumberland, the quantity is almost double. The same is the case in parts of the coasts of Ireland and Scotland.

Owing to the extreme dryness of the atmosphere on the continent of New Holland, it is less oppressive and debilitating at 100° than the more humid climate of India at 80°: indeed, as far as the feelings are concerned, the thermometer is a very imperfect indication of the temperature of the air. On this point we cannot arrive at a correct comparison without knowing the state of the atmosphere by the hygrometer. The prevailing diseases in our colonial possessions are dysentery, ophthalmia, influenza or catarrh—which is sometimes almost epidemic—rheumatism, scrofula, and, since the intercourse with Europeans began, venereal has spread itself very generally, and with a most direful effect; so have measles, scarlatina, and small-pox, in some instances. Influenza or catarrh seldom proves fatal to persons in the prime of life; but old people and children are apt to sink under it. Colonial-born children are more delicate than those of Europe generally, especially if not suckled by the mother; and require being nursed for a longer period than we are in the habit of allowing in England: two years and a half is the ordinary period. On experience, it appears that before this, or if weaned at an earlier period, you expose the child to the greater risk of mortality from infantile diseases. This is likewise the case amongst the children of European and American settlers in Syria; and Orientals deem it right to suckle their children till the second and third year, and consider it fatal to the child to wean it before this. Cases of consumption have occasionally occurred, and terminated fatally, among the native youth (children of Europeans); and Europeans who have brought the genuine phthisis pulmonalis along with them to the colony sink at last under the fatal influence of its deadly virus, though, humanly speaking, they may be said to add three or four years to their lives by having gone from Europe to the Colonies. On the subject of the vital statistics of the colony of New South Wales, Dr. Lang says "that the probabilities of life for any number of children born in the colony are higher than for a similar number born in England; but that fewer of that number are likely to reach extreme old age in the colony than in Great Britain." In short, the lamp of life in the salubrious climate of New South Wales is like a taper immersed in a vessel filled with oxygen gas,—it burns more brightly than in common air, but is the sooner extinguished.

The diseases in the colonies are more frequently attended with speedy and entire prostration of the physical and mental powers than in England, and the diseases that attack the human frame in the colony are generally more acute, and arrive more speedily at their crisis: therefore our treatment must be more active, vigorous, and prompt, supporting the patient at the same time with a light nutritious diet that will not excite or stimulate. Depletion, both general and local, is more requisite in the colonies and the East—amongst Europeans—than in England; and mercurials and antimonials, judiciously administered, are invaluable therapeutic agents, and form the more general class of medicines in requisition.

Dysentery is the most prevalent and fatal disease. Children are very subject to worms—the *teres* and *tænia*—so common in warm climates, and where rice or barley constitutes a common article of diet. The presence of these worms—the tapeworm—moreover, not unfrequently produces so much irritation and disturbance to the children's system, as to be a fertile source of a modified form of epilepsy and periodic convulsions. Adults—females especially—are often thus affected; and I am of opinion that many of the anomalous symptoms called nervous, and so frequently observed in England, arise from the presence of worms.

Children born in our colonies, on reaching the age of puberty, are liable to the supervention of phthisis, from the rapid sprouting out in stature of the youth at that period; but the European phthisis is uniformly cured, or at least relieved, by a removal hither, if early resorted to.

An epidemic influenza carried off a number of old Europeans some years ago, and also not a few of the aborigines; while many of the younger inhabitants occasionally feel the effects of it to this day.

Aboriginal tribes, like Orientals—natives of China, India, Turkey, &c.—are more prone to contract disease of an epidemic character than Europeans, and particularly so as their intercourse with the latter increases: the mortality, strange to say, is in the ratio of their freedom of communication; and this can in no way be explained but by the painful admission on our part that vice and depraved habits are introduced amongst them; they are not a law unto themselves, and they soon injure their constitutions, and disease and death speedily put an end to their wretched existence.

[To be continued.]

BENEFICIAL EFFECTS OF CREOSOTE IN THE TREATMENT OF DIARRHŒA.

By W. B. Kesteven,
Surgeon.

The value of creosote in diarrhœa is really so great, and yet it is so little known to the profession generally, that if you can spare the space to insert the following remarks, they may perhaps be of use to others.

In the year 1849, Mr. Spinks, of Warrington, wrote through the medium of your journal to say that he had found the administration of creosote in diarrhœa[*] and cholera attended with the best success. The writer made trial of the remedy on Mr. Spinks's recommendation, and since then has seldom had recourse to any other medicine for diarrhœa. In most cases this alone has been given, and chalk mixtures, &c., &c., &c , have been entirely discarded. The form in which it has been administered to adults has been as follows:—℞ Creosoti, ♏j. ad ♏v., Spir. Ammon. Arom. ♏xv. ad. ʒj., Aquæ ℥j. ad ℥iss: where pain has been severe, Tinct. Camph. Co. has been added. Mr. Spinks[*] prescribed Chloric Ether; but the writer having had reason to think it produced headache, has omitted that article without detriment.

In no single case has creosote failed to be of signal benefit; in most cases one single dose has sufficed to arrest the course of the disease; in very few cases has it been requisite to administer more than the second dose. The remedy has been tried (to keep within the limits), it may be stated, in considerably more than a hundred instances, and its effects can therefore be confidently affirmed. It is not, of course, hereby asserted that equal success will always attend its use; the circumstances of local influences, epidemic constitution of the season, &c. may modify results in other hands. The present communication goes no farther than to affirm that the writer, like Mr. Spinks, has found creosote more efficient than any other drug in stopping pain, vomiting, and purging, as combined in diarrhœa. Of its utility in cholera the writer has had no experience.

Creosote is well known to have a powerful effect in coagulating albumen and other animal principles; and it is probable that its astringent operation may be due to the exertion of some such influence on the lining membrane, as well as the mucous secretions, of the alimentary canal.

Upper Holloway, Jan. 28, 1851.

CHARING CROSS HOSPITAL.

The annual report of the committee of this charity has lately been presented to the subscribers. It appears that, in the course of the last year, 19,105 indigent sick persons were admitted on the books for relief, at a cost of £2430. 11s. 11½d. Of these, 1210 were in-patients, and 17,895 were out-patients (many of whom were visited at their own homes), and the greater part were restored to the blessings of health and to their occupations for the support of their families. Those, with the cases reported in former annual statements, made a total of 186,863 sick and needy individuals who have partaken of the advantages of the institution from its commencement to December 31, 1850. Great as the amount of relief afforded would from the above statistics seem to be, we are informed that the accommodations of the hospital are still inadequate to the wants and numbers of applicants for its assistance. The cases of accident and sudden injuries which have been brought to it during the last year amounted to 2766; of which 643 required to be immediately admitted as in-patients. Of the 19,105 mentioned above, as being admitted during the same twelvemonth, 1220 were with letters of introduction from governors and subscribers; whilst 17,885 were admitted without any recommendations at all. Under these circumstances we may call attention to a fact stated by the committee, that the efficiency of the charity might, without much additional expense, be materially increased, as a portion of the building, hitherto unoccupied for want of funds, would admit, if finished and fitted up, of 50 more beds being added to those already contained in the hospital, and would thus afford the means of its receiving 500 or 600 more in-patients annually.

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[*] Medical Gazette, N. S. vol. ix. p. 255.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 7, 1851.

THE reopening of another session of Parliament suggests some reflections respecting the probability of a legislative measure being passed for the improvement of the profession. We have now before us the proposed Bill of the National Institute in an amended form. It will be remembered that this Bill was introduced into the House of Commons, towards the end of the last session, by Mr. Wyld and Col. Thompson, merely for the sake of allowing due time for the consideration of its provisions during the vacation. We presume we may consider the document before us as the *ultimatum* of the Council of the National Institute, and that no time will be lost by its supporters in again bringing it before the House of Commons.

Our impression from the examination of the provisions of this amended Bill is,—1st, that it will entirely abolish the Apothecaries' Society, and leave the licentiates of that Society shorn of part of their privileges; and 2nd, that, indirectly, it will, sooner or later, supersede the functions and privileges of the Royal Colleges of Physicians and Surgeons. It is true that the privileges of the members of these Colleges are in some degree reserved, but the effect of the measure will be to compel future members of the profession to enrol themselves in the new College as "Surgeon Apothecaries," or "General Practitioners."

The Bill must necessarily affect two classes:—those who are at present qualified to practise medicine and surgery, and those who may hereafter enter the profession. With regard to the former, the sixth section of the Act provides as follows:—

"VI. And be it enacted, That every person who was actually practising as an apothecary on the first day of August one thousand eight hundred and fifteen, or who before the passing of this Act shall have acquired the right of practising as an apothecary, by virtue of the Act of the sixth year of the reign of King George the Fourth, herein-before mentioned, and also every person who before the passing of this Act shall have obtained a certificate of qualification to practise as an apothecary from the Court of Examiners of the Society of Apothecaries of the City of London, and also every person at the time of the passing of this Act actually practising as a surgeon or apothecary, or practitioner in medicine, surgery, or midwifery, in England or Wales, being a Fellow or Licentiate or Extra-Licentiate of any of the Royal Colleges of Physicians of England, Scotland, or Ireland, or a Fellow, Member, or Licentiate of any of the Royal Colleges of Surgeons of England, Scotland, or Ireland, or a Member of the Faculty of Physicians and Surgeons of Glasgow, or a Doctor or Bachelor in the Faculty of Medicine of any University of the United Kingdom of Great Britain or Ireland, shall be entitled, at any time *within twelve calendar months* next after the passing of this Act, if at the passing thereof he shall be resident in the United Kingdom, but if not resident therein at such time, and not of the class herein-before required to be actually practising in England or Wales at such time, then at any time within *two years* after the passing of this Act, to cause his name to be enrolled as a Member of the said College, on payment to the said College of the fee of   for the use of the said College, and on being so enrolled he shall become a Member of the said College and body corporate."

The seventh section provides for certain difficult points regarding precedency and priority of registration—the order in which the names are to be inserted in schedules, diplomas, &c. The eighth section concerns future members:—

"VIII. And be it enacted, That, except as herein-before and herein-after mentioned, no person shall become or

> be admitted a Member of the said College until after he shall have attained the age of twenty-two years, and shall also have complied with such rules and regulations as the Council of the said College shall from time to time consider expedient, and by a bye law or bye laws direct, nor unless he shall have passed such examination or examinations as the said Council shall from time to time by a bye law or bye laws direct to be undergone by candidates for admission into the said College; but every fit and proper person, having attained such age, and having complied with such rules and regulations, and passed such examination or examinations, shall be entitled to be admitted a Member of the said College."

The fee to be paid by members on admission, whether present or future, is left undetermined: it is proposed to fix a certain sum above which the College will have no power to raise it.

Those who may select the license of other Colleges of the United Kingdom, —in other words those who are inclined to pay a double fee,—may obtain the *ad eundem* diploma of the New College under the tenth section, which, as amended, stands as follows:—

> "And be it enacted, That the Council shall have full power from time to time to admit into the said College as members thereof, without examination, but on payment of such a fee as they shall from time to time think fit, but which shall not exceed that which shall be payable by those admitted after examination, any person who shall have attained the age of *twenty-two* years, and shall be able to adduce evidence satisfactory to the Council that he has a Medical or Surgical degree, diploma, certificate, or licence, from some University, College, or licensing body of the United Kingdom, duly authorized for the granting thereof; and that he has been engaged for at least *five* years in a course of professional study embracing all the subjects on which an ordinary candidate for admission into the College would be examined, and also that the examination which he underwent was of a standard as high as that of the examination imposed by the College of General Practitioners on ordinary candidates."

It is obvious that this section will involve some intricate points regarding *equality of examination*, and the College will thus retain a discretionary power of licensing to practise in England and Wales, those who may hereafter procure a Scotch or Irish diploma. The applicant may or may not have to undergo a second examination; but whether this ordeal be passed or not, he can only join the new College (or acquire the right to practise in England and Wales) by the payment of such fee as the College may think fit, in addition to that which he has already paid for his license,—English, Irish, or Scotch.

By clauses 11 and 12, provisions are made for an annual registration of all members of the College; and the important position which the new College proposes to take in a public capacity may be estimated from the fact that, according to the 12th clause,—

> "A printed copy of the said registry for the time being so published by or under the direction of the said Council shall be evidence in all Courts, and before all Justices and others, that the persons therein specified are duly registered under this Act; and *the absence of the name of any person from such printed copy* shall be evidence, until the contrary be made to appear, that such person *is not registered under this Act.*"

Unless Justices and others are simultaneously provided with registers of their members by the Royal Colleges of Physicians and Surgeons, whether of London, Edinburgh, or Dublin, the practising members of these Colleges who may decline joining the new College may be placed in the disagreeable position of being treated as unqualified persons. It is true that the words are —"not registered under *this* act;" but, in the absence of any other register, the public will easily associate this with the supposition that the person whose name is not on the General Practitioner-list is not registered at all! We are inclined to think that this class of dissentients will be very numerous; for, in our judgment, few who are already qualified and practising under English, Scotch, or Irish licenses, will voluntarily pay a fee to the new College, for the enjoyment of no other additional privilege than that of being enrolled as "General Practitioners, or Surgeon Apothecaries." In this case, unless Courts of Law and Justices are provided with annual registers for every College in the United Kingdom, some injustice will be done to those who may not be members of the new Incorporation; and, if they be so provided, we may anticipate a tolerable amount of work for the Office clerks, for which they are fairly entitled to an extra fee.

We pass over the sections regarding the Government of the College, as involving matters of detail into which it is at present unnecessary to enter. The twenty-fourth section affects students *in esse*, and here an annual registration fee, of *two shillings and sixpence*, is directed to be levied on each student:—

"XXIV. And be it enacted, That it shall be lawful for the said Council to make regulations for insuring that in every city and town possessing a medical or surgical school an annual register shall be kept of all students of the several medical and surgical schools, whether connected with any University, Royal College, Hospital, or other public Medical or Surgical Institution in that city or town, and authorize the taking of a fee for such registration, not being more in each case than *two shillings and sixpence* for such annual registration, and for requiring all such fees to be remitted to the said Council, and returns to be made to them of the registration of all such students, in such manner and form as the said Council shall think fit; and all such fees shall be applied towards the expenses of the Act; and no medical nor surgical student shall be admitted to examination by the said College or Council without certificates of his having been duly registered conformably to such regulations; and that it shall be lawful for the said Council to make regulations for dispensing with such provisions of this Act as to them shall seem fit in favour of medical and surgical students who shall have commenced their professional studies before the passing of this Act."

On the appointment of examiners, and the mode of conducting examinations, we have the following provision:—

"XXV. And be it enacted, That the Council shall annually appoint examiners for the purpose of examining those who may be candidates for admission into the said College, and to be enrolled and registered as aforesaid; but no President or Member of Council shall be eligible to be appointed an examiner; and that, at all examinations, either the President, or one of the Vice-presidents, or, in their absence, some Member of the Council, to be from time to time appointed by the Council for that purpose, shall be present, and shall preside, but he shall not interfere in the examination, or have any voice in the admission or rejection of candidates."

The 26th clause reserves a power of expelling members. It does not differ materially from the suspending and expelling clauses of other Bills.

By the 27th clause, all public situations and their privileges, as well as all medical and surgical offices in England and Wales, are especially reserved to three classes of practitioners—1. Members of the Royal College of Physicians of England; 2. Members of the Royal College of Surgeons of England; and 3. Members of the New College of General Practitioners. Licentiates of the Apothecaries' Society, and the members of all other Colleges and Universities in the United Kingdom, are excluded from these public offices. We subjoin the clause, which is by no means likely to give satisfaction:—

"XXVII. And be it enacted, That, subject to the reservations herein-after contained, no surgeon-apothecary or general practitioner, after the passing of this Act, who is not registered by the said Council, shall be appointed to any medical or surgical office for the relief of the poor, or in any hospital, prison infirmary, dispensary, school, workhouse, or other public institution in England and Wales; and whenever by law it is provided that any act shall be done by a physician, surgeon, or apothecary, or medical or surgical practitioner, by whatever name or title called, such provision shall be construed, after the passing of this Act, to mean a person being either a Member of the Royal College of Physicians of England, or the Royal College of Surgeons of England, or being registered under this Act; and the Council shall be empowered from time to time to make regulations for specifying what institutions are to be considered public institutions, and what offices in them are medical and surgical offices within the meaning of this Act; and that all persons who shall be registered by the said Council as surgeon-apothecaries or general practitioners shall be exempt, while registered and practising as such, from being summoned or serving on all juries and inquests whatsoever, and from serving all corporeal(?), parochial, ward, hundred, and township offices; and no surgeon-apothecary or general practitioner shall be entitled to such exemption who is not so registered; nor shall the certificate of any such unregistered person, given after the passing of this Act, be received as the certificate of a surgeon-apothecary or medical or surgical practitioner in any court of law, or in any case in which by law the certificate of a surgeon-apothecary or medical or surgical practitioner is required."

By a subsequent section, a fine of twenty pounds is inflicted on every person who takes a medical or surgical office "for which he is not qualified according to the provisions of this Act."

The 28th section reserves a power of recovering in Courts of law, charges for medicine, attendance, and medical and surgical advice, to those who are registered under the Act, as well as to those who possessed this power before the passing of the Act.

The 30th section inflicts a penalty of twenty pounds upon all persons who, after the passing of the measure, shall act or practise as surgeon-apothecaries or general practitioners in any part of England and Wales without having been registered, or who shall falsely pretend to be so registered, or assume any title as so registered, &c. The only exception applies to those who have been licensed as apothecaries, or who were in practice as such before the 1st of August, 1815.

We have here given a brief outline of this measure, quoting in full those clauses which appear most nearly to affect the rights and interests of the heterogeneous body of practitioners scattered over England and Wales. In our opinion, there is no chance of such a Bill being passed into a law. As we understand its clauses, every Scotch and Irish practitioner who did not possess the license of the English College of Surgeons or Physicians would be compelled to join the new College and pay the fees, or to give up practice and leave the country, in the event of its enactment. All members of the College of Surgeons now acting as general practitioners would be compelled to enrol themselves in the new College and pay the fees, or abandon this department of practice and keep to the bones and ligaments of pure surgery: they might occupy surgical offices, and practise as surgeons, but nothing more Mere licentiates of the Society of Apothecaries are, as a body, ignored. If unregistered in the new College, the 30th section certainly protects them from prosecution; and, under the 28th section, they may recover charges in Courts of law for medicine and advice, as at present; but they are not permitted to occupy professional offices, nor grant professional certificates; and their names, in common with those of the Members of the Colleges of Physicians and Surgeons, will be excluded from the General-practitioner-registry, which, after the passing of the Act, is to be in the hands of all coroners, magistrates, judges, and other legal functionaries. It is, we think, obvious, from the terms of the sections quoted, that this measure is much too severely retrospective. All Scotch and Irish practitioners, all Licentiates of the Apothecaries' Society, and a large number of Members of the College of Surgeons, *must* join the new College, and contribute to its support by the payment of fees, or incur the risk of prosecution by practising as at present. A question naturally arises—To whom are these extraordinary powers to be entrusted? So far as we can judge, these demands on the Legislature are made by only a small section of the profession. Their views are, we believe, supported by many who would be the last to bind their professional brethren, *nolentes volentes*, to the terms of a despotic measure of this kind. As it stands, it appears to us that the amended Bill would have the certain effect of creating a great and unjust monopoly in English practice: it would alienate Scotch and Irish licentiates, and render impossible the enactment of any common measure for the benefit of all medical practitioners in the empire.

Reviews.

Surgical Report on Bi-lateral Lithotomy, with general Remarks on Operations for Stone. By J. Nottingham, M.D., &c., &c., &c., formerly House Surgeon to the Infirmary, and Senior Surgeon to the St. Anne's Dispensary, Liverpool. 12mo. pp. 101. London: Churchill. Liverpool: Deighton and Laughton. 1850.

Excellent as are the remarks on operations for stone which are contained in this work, it certainly does not come up to what we expected from its title of "*A Report*," which in the usual acceptation of the word is taken to mean a summary of observations or cases, setting forth certain general principles and conclusions derivable from them. Dr. Nottingham's essay consists principally of the relation of *one* leading and very interesting case, with many useful practical remarks thereon.

The author in the first place gives an historical enumeration of the many eminent men in all the departments of literature and science who have been the subjects of stone. To this is appended a brief but lucid anatomical sketch of the parts to be divided and to be avoided in the operation.

We come next to the "Report," or case which constitutes the body of the work. The patient had suffered comparatively little, for more than forty years; but after this long period the symptoms of stone became urgent, so that at last lithotomy was submitted to. The patient was put under chloroform, and the operation, which presented great difficulties, was performed without giving any pain; a stone weighing two and a half ounces was extracted, and complete recovery followed.

With reference to the selection of lithotomy or lithotrity the author observes:—

> "The majority of cases which are selected as favourable for the crushing operation are just those that would give the greatest average of success, if lithotomy were performed upon them; so that, if we estimate the value of lithotomy from results obtained in such cases, and on the other hand, estimate the value of lithotomy from results obtained by this operation, in all kinds of cases, incorrect and partial views will be taken of both,—the former will appear better, and the latter worse, than it really is."
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> "Many, if not all the conditions and circumstances which are strikingly favourable to lithotrity, are equally favourable to lithotomy, while many of the conditions most in favour of lithotomy, and cases in which the amount of its success is remarkably great, are not at all such as tend to indicate the propriety, or probable success, of the crushing operation" (p. 42).

The conditions favourable to either operation enumerated by the author, are—

> "Good general health. A sound state of the organs concerned,—kidneys, ureters, bladders, prostate, and urethra,—their moderate irritability. Capacious urethra. Comparative moral tranquillity, and resigna-

tion of the patient. Calculus of moderate size" (p. 43).

"Childhood is extremely favourable to lithotomy, but generally unfavourable to lithotrity."

Among other circumstances, unfavourable to lithotrity, are the great size, great hardness, or awkward position or connection of the stone, or the presence in the bladder of a very hard or tough foreign body, which by some accident has become the nucleus of a vesical calculus; also a small urethra, diseased or very irritable urinary organs.

The relations, size, connections, &c., of the calculi, the permanently contracted or permanently dilated bladder, the bladder divided into compartments, the complication of stone with pregnancy, the character and extent of the division of the prostate, the nature of the cutting instruments, all afford topics for the author's remarks and comments.

In the "retrospective" view of this case with which the author concludes, he takes occasion to offer many additional useful suggestions on the mode of performing the operation of lithotomy.

The concluding paragraph of Dr. Nottingham's valuable little essay recals thoughts that have often passed through our minds when witnessing some of the late Mr. Liston's operations for stone, completed in little more than half a minute:—

> "In lithotomizing in a few seconds, there is little advantage contrasted with great danger; the exhibition of manual dexterity should never be too much attempted, lest, perchance, the hand of the surgeon get in advance of the head; he had better, like the captain of Tasso, let the two go together, that the deed may be done;—*col senno e con la mano.*"

Dr. Nottingham's treatise may be advantageously studied by all young surgeons who may perchance be called upon to operate for stone.

On the Origin of Inflammation of the Veins, and on the Consequences and Treatment of Purulent Deposits. By Henry Lee, F.R.C.S., Assistant Surgeon to King's College Hospital, &c. 8vo. pp. 91. London: Renshaw. 1850.

This Essay gained the Jacksonian Prize for the past year. It consists of a series of experimental deductions on the effects of a vitiated condition of the blood, and of the introduction of vitiated fluids into the veins. On these points the widest difference of opinion has existed, and among these none greater than on the question of the circulation of pus in the blood.

In reference to this subject Mr. Lee remarks:—

> "The theory of the circulation of pus-globules with the blood, supported as it is by much ingenious reasoning, and most conveniently adopted to explain the formation of purulent deposits, has yet never obtained general belief. The stoppage of the pus-globules in the capillary tubes, has appeared to many accustomed to the practical observation of diseases too mechanical a solution of the origin of these abscesses; and it has become necessary to determine, with more precision than has hitherto been done, the actual conditions under which pus in substance can be received into the circulation.
>
> "The simple experiment of mixing some pus with healthy, recently drawn blood, will at once show that such a combination cannot circulate in the body. It will be found that the blood coagulates round the globules of pus, and forms a solid which will adhere to the first surface with which it comes in contact; and it will be evident, that it is not till the coagulum thus formed is broken up or dissolved, that its elements can circulate with the blood."

The author alludes to the experiments and views of John Hunter, with regard to the coagulation of the blood within the vessels, owing to the presence of foreign matters, and following the idea thrown out by the great physiologist, he finds that his own experiments fully "confirm Hunter's notion, that foreign substances may induce actions in the blood when withdrawn from the body; but they also shew that some of these effects may be produced still more rapidly in the living vessels."

In his experiments, Mr. Lee has employed pus in preference to any other fluid;—"first, because the power of coagulating the blood which it was found to possess, enables its influence to be traced within the body; and secondly, because, being an animal secretion, the results obtained are likely to be analogous to those produced by the admixture of other secretions with the blood."

The power which pus possesses of coagulating the blood, is regarded by

Mr. Lee as being the result of a vital, rather than of a chemical influence; because he has reason to believe that where the blood has lost its natural power of coagulation, no visible change is produced in it by the addition of pus.

Mr. Lee's experiments lead him to the conclusion that water retards the coagulating power of pus on the blood; while the causes which favour the coagulation out of the body, are rest, and separation of the blood into small quantities:—

> "These conditions," observes the author, "are in some degree brought into play during the circulation of the blood through the capillaries; and when the influence of the admixture of pus with the blood is not sufficient to produce coagulation at once, we should naturally expect the effect to be more readily induced where these two additional causes concur in favouring such an action. When the pus introduced is in any large quantity, the coagulation of the blood is at once determined, and the entrance of pus into the circulation thereby prevented" (p. 5).

The occlusion of a vessel may not, however, be complete as the result of the cohesion of a coagulum to its surface. If the circulation be not entirely obstructed, the irritating fluids produced by adhesive or suppurative inflammation around the attachments of the coagulum may be conveyed into the current of blood, thereby still further poisoning that fluid. Veins are slow to inflame from surgical injury; but the presence of foreign substances, as pus, morbid secretions, &c., will speedily determine inflammation within them. With regard to this point, we may borrow Mr. Lee's language:—

> "The conclusions drawn from the facts now stated are—first, that inflammation of a vein or phlebitis is no essential part of the primary affection which precedes constitutional symptoms even when morbid matter has found its way into the circulation through a vein; secondly, that when inflammation of a vein does occur, in some instances at least, it is not the cause, but the consequence, of the introduction of diseased or foreign matter into the blood; thirdly, that although veins are with difficulty inflamed by any mechanical injury, they are susceptible of rapid inflammation, accompanied with constitutional disorder, whenever any irritating fluids are introduced into their cavities" (p. 11).

The author illustrates his conclusions by reference to the phenomena of uterine phlebitis, phlegmasia dolens, inflammation of bone, the diseased secretion of which often finds its way into the circulation, by a consideration of the effects produced by the injection of various substances into the veins, and, lastly, by a series of experiments which are carefully related by the author.

In the second part of his work, Mr. Lee enters more fully into the nature and symptoms of infection of the blood by pus and other fluids, which he shows cannot pass into the circulation until the blood shall have lost its power of coagulation. The treatment of purulent infection constitutes a considerable portion of the second part of this work, and not its least valuable: the observations thereon which the author offers are in conformity with the experience of the best practitioners. The avoidance of active depletory or depressing measures, and the adoption of those means by which the constitutional powers are upheld, offer the only chance for the climination of the diseased blood, and the re-establishment of the healthy processes of sanguification.

An appendix of cases is added by the author in illustration of the pathology and treatment of this form of disease.

It is quite unnecessary for us to add one word of commendation. This work establishes the author's reputation as a truly scientific investigator of the phenomena of disease. The results of his inquiries as here embodied will be of signal service in the elucidation of a dangerous and obscure class of cases

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Pathological Researches on Death from Suffocation and from Syncope, and on Vital and Post-mortem Burning: suggested by the Case of the alleged Bridgenorth Matricide. By Samuel Wright, M.D., LL.D., D.C.L., Professor of Clinical Medicine in Queen's College, Birmingham, &c. &c. 4to. pp. 34, and three plates. London: Churchill. Birmingham: Allen and Son. 1850.

We may preface our notice of Dr. Wright's work by supplying what the author does not give therein,—that is, a short statement of "the case of the alleged Bridgenorth matricide." The facts are briefly these:—Mary Catherine Newton, æt. 31, was charged, at the Shrewsbury Assizes, March 1850, before Mr. Justice Patteson, with having murdered her mother. The prisoner had been twice before tried on the same accusation, and on each occasion the jury had been discharged because they could not agree to their verdict.

The prisoner had for several years preceding been repeatedly heard to use most unnatural and violent language to her mother, often threatening to take away her life. On a certain night other persons in the same house where the mother and daughter had slept were alarmed by the smell of fire, and on descending to the kitchen found that the sofa on which the deceased had slept had been burning. The corpse of the mother, who was, three hours before, in ordinary health, was found in an out-house. The bed in which the daughter usually slept had not been slept in on that night, and she was herself found, on the premises below, in a state of half intoxication.

Such are the prominent features of the case; more minute circumstances are fully detailed in the daily *Times* of March 25th. We now proceed to take up the case in its medico-legal bearing, at the point where Dr. Wright brings it under our notice.

The body was found, as stated above, in an out-house; it had been burnt, as we have also shown, in the kitchen. The medico-legal questions thence arising were—What was the cause of death? Were the burns vital or post-mortem? Upon the answers given by the medical witnesses to these questions depended the verdict at this third and last trial, of *guilty* or *not guilty*.

In order to arrive at a just answer to these questions, it is necessary that we state the result of the examination of the body. It was found lying on the face and abdomen, with the hands joined across the upper part of the chest. The nose, which during life had been a very prominent organ, was flattened down, so as not to rise more than the eighth of an inch above the level of the face, and it did not resume its original appearance. The body was extensively burnt: in fact, in many parts the surface was completely charred; "but in no part," observes Dr. Wright, "could the least trace of redness be detected. There was a small blister, containing what was suspected to be serum, on the inner side of the right leg, about four inches above the ankle; but neither around nor beneath this blister was there the slightest mark of redness."

"The internal appearances of any note," Dr. Wright remarks, "were stated to be marked congestion of the brain; excessive congestion of the lungs, which were unusually dark and spumous wherever incised; and complete engorgement of the right cavities of the heart, with black semi-coagulated blood." That the burning was post mortem, and not vital, was apparent.

It would be going beyond our object, and perhaps trespassing upon the limits of judicial decisions, were we to offer an opinion on the verdict of acquittal in this case of almost self-evident matricide, although the cause of death was, we believe, suffocation, and not burning. We shall follow Dr. Wright's observations and experiments, which have been made with a desire to throw light upon several questions of interest to the profession, and which are involved in this investigation.

1. *Morbid appearances after death from suffocation.*—These Dr. Wright shows, with other forensic medical writers, to consist in fulness of the vessels of the brain, congestion of the lungs, and complete engorgement of the right cavities of the heart.

In the report of the trials contained in the daily papers, Dr. Wright is represented to have laid great stress upon the absence of a statement, by the medical men who conducted the post-mortem examination, with regard to the condition of the larynx, bladder, and rectum, in arriving at a correct opinion as to the cause of death. We are at a loss to know what more conclusive evidence Dr. Wright would have derived from these data, in addition to that already existing, of death from suffocation—evidence which is conclusive, we may observe, according to the highest authorities in medical jurisprudence, and conclusive according to Dr. Wright's own section on this subject.

2. The next question proposed and discussed by Dr. Wright in reference to this case is—"Does poisoning by the gaseous products of combustion leave morbid appearances resembling those occasioned by suffocation?" We quote the author's own words in answer to this question:—

"Though the results of my own experiments and observations lead me to the conclusion that the indications are sufficiently obvious and precise to enable us, in the majority of cases, to distinguish between poisoning by carbonic acid and suffocation; yet, knowing how certain acknowledged pathological conditions are liable to vary, I should assuredly let this fact restrain me from the expression of an absolute opinion on the subject in point, did it involve a question of criminal responsibility."

3. In the third section Dr. Wright discusses the subject of sudden death from syncope.

4. The fourth section treats of the question of the condition of the internal organs, as affected by sudden and permanent collapse of the superficial vessels: the degree of congestion of the large vessels and internal organs is illustrated by the details of experiments performed to ascertain this point.

The 5th and 6th sections embrace the two most important questions with reference to the case in point,—viz., Is vital burning ever unattended with marks of redness? And can a blister be produced by post-mortem burning? The author's direct and positive answer to the first is in the negative. We may notice, with regard to this point, a misapprehension which Dr. Wright entertains with regard to the views of one medico-legal authority: he observes—"Taylor says 'this line of redness is not always met with in severe burns!'" "It is to be regretted," continues Dr. Wright, "that this passage has not received its due qualification, were any intended, and that its able author did not also refer to the red marks found beneath the blisters and crusts of vital burns." If Dr. Wright will refer to the context from which he has detached and isolated this sentence (for what object we cannot perceive), he will find the qualifications he desires. We here transcribe the paragraph for Dr. Wright's information:—

"In burns produced by red-hot solids other effects besides vesication follow. The edge of the skin immediately around the part burnt is commonly of a dead white; and, close to this, a *deep red line*, gradually shaded off into the surrounding skin, which is reddened. The diffused redness is removable by pressure, and disappears with life: the red line, however, is not removable by pressure, and is persistent after death. This line of redness is not always met with in severe burns; and, when the individual survives one or two days, its production appears to depend upon a power of reaction in the system. Thus, then, its absence furnishes no proof of the burn having a post-mortem origin; for it is not a necessary accompaniment of a vital burn."*

What more explanatory or "due qualification" this statement could require is not apparent.

With regard to the second question, we may observe that the possibility of producing a post-mortem blister depends on the amount of organic vitality left. Dr. Wright quotes its possibility from many authorities in medical jurisprudence, and also states that he has produced these himself by experiment.

The plates accompanying this volume illustrate the two last points.

The perusal of this essay will afford some interest and much instruction, as it brings under one point of view several questions of great importance in reference to the medical jurisprudence of burns and scalds.

CASE OF MENSTRUATION AT THREE YEARS OF AGE.

Dr. Marage relates the following case, which had occurred in his practice:—

D—— A——, a well-formed child, of a fair complexion and lymphatico-sanguine temperament, had been a delicate infant for the first few months of her life, but had grown to be healthy and strong. At the age of thirty-four months she exhibited all the symptoms of the malaise which usually precedes menstruation in women, and which were now followed by a discharge of blood from the vagina: the discharge continued four days. The quantity lost was declared by the matrons of the village in which she lived to be equal to what is usually lost by women of full age and freely menstruating (?). The same thing occurred at four successive monthly periods, each time preceded by similar symptoms. After the fourth period the menstrual discharge began to decrease in quantity, in colour, and duration, occurring at short and irregular intervals, until at last it became simple leucorrhœal discharge. The general constitutional disturbance, however, has recurred at intervals, as if uterine congestion took place at those times.

M. Marage is disposed to regard this case as an instance of true menstruation, attended with ovulation. But he observes on this point, with much truth:—"Je sens que je me perds dans des regions trop elevées."—*L'Union Médicale*, 1850. x

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* Medical Jurisprudence, 3d edit. p. 309.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Jan. 28, 1851.

THE PRESIDENT IN THE CHAIR.

Account of a Case in which the Cæsarean Section was performed: with Remarks on the Peculiar Sources of Danger attendant on the Operation. By CHARLES WEST, M.D., Physician-Accoucheur to St. Bartholomew's Hospital, and Lecturer on Midwifery in the Medical College.

THE subject of this history was a young woman, aged 27 (a patient of Mr. Wren, of Brownlow Street), whose health had always been indifferent, but whose person was not apparently deformed, and who reached the end of her first pregnancy without manifesting any symptoms especially calling attention to the state of her osseous system, with the exception of pains of a rheumatic character, and difficulty in walking, which last became very great during the last two months of her pregnancy.

When labour came on, which it did at the end of the full period of utero-gestation, the existence of extreme pelvic deformity was at once ascertained by Mr. Wren, in whose opinion,—as well as in that of Dr. West, Dr. Murphy, and Dr. Ramsbotham,—the performance of the Cæsarean operation was indicated. It was accordingly performed by Mr. Skey fourteen hours after the commencement of labour, and eight hours after the rupture of the membranes; uterine action having, however, been feeble from the first, and having almost ceased since the escape of the liquor amnii.

The patient was, by her own desire, subjected to the influence of chloroform before the operation was begun: no difficulty was experienced in its performance; and a living female child was extracted. Very formidable hæmorrhage succeeded the removal of the placenta; and the subsequent contractions of the uterus were very tardy in their occurrence. The patient was left in a state of great exhaustion, from which she never completely rallied, and died in 108½ hours after the operation, apparently from the conjoint effect of the hæmorrhage during the operation, and of the shock to the nervous system. The treatment had consisted in the administration of stimulants and nourishment, both by the mouth and in enemata; and the patient was kept in the same manner almost throughout under the influence of opium.

The body, on examination after death, presented no evidences of serious inflammation; but the uterine wound was gaping widely, and even that of the abdominal walls was but partially closed. The pelvis presented, in a most marked degree, all the characteristics of that deformity which is produced by mollities ossium; the pubic bones being projected into a beak 1·2 inches in length; the width of the pubic arch being reduced to 0·6 of an inch, and the distance between the tuberosities of the ischia to 1·2 of an inch.

The writer, having noticed the high maternal mortality resulting from the Cæsarean section, and which he estimates at much more than the number of 63 per cent., at which the statistics of all cases recorded since 1750 places it,—since the results of cases occurring in hospitals abroad yield a maternal mortality of 79 per cent., and of cases in this country of 85·4 or 87·5 per cent., according to two different estimates,—proceeds next to point out the causes, apparently inevitable, of this high mortality.

These causes he refers to four heads; and illustrates their respective influence by reference to a Table of 134 fatal cases in which the body was examined after death. The four heads are as follows:—

1st. The danger arising from hæmorrhage, which proceeds from a source different from that whence bleeding takes place in any other operation, and which is not capable of being arrested by the same means as suppress it under ordinary circumstances.

2nd. That dependent on the shock inflicted on the nervous system, as well by the violent interference with the most important process that ever goes on in the organism within the same limited time, as by the injury to a part so important, and so richly supplied with nerves, as the uterus of a parturient woman.

3rd. The hazard inseparable from extensive injury to the peritoneum, when unblunted in its sympathies, and unaltered in its texture, as in cases of ovarian or other tumors, for the removal of which a similar exposure of the abdominal cavity is sometimes practised.

4th. That which results from the infliction of a wound on the uterus at a time when, in the ordinary course of things, the processes which nature is prepared to carry on in it consist in the disintegration and removal of its tissue; processes the very opposite to those essential to the repair of injury.

From a consideration of all these sources of danger, to the last of which attention has hitherto scarcely been directed, the author arrives at the conclusion that they being so serious, and so beyond the power of art to prevent, the rule which forbids the performance of the Cæsarean operation wherever there is a reasonable probability of accomplishing delivery by the natural passages, is founded on solid grounds, and ought to be adhered to.

After the reading of Dr. West's paper—

Dr. **Robert Lee** said that he wished to make a few short observations on the Cæsarean operation, as well as on the induction of premature labour: he commenced by observing, that the statistical tables of the performance of the Cæsarean operation were useless, as he well knew that many times it had been performed without ever being recorded. Dr. Lee then remarked, that Dr. Denman says the first case mentioned of its performance was that of Eliza Alicia Bent, which occurred in the sixteenth century; and in this case the operator was the woman's own husband. She had several children afterwards, shewing, as Dr. Lee observed, how unnecessary it was in this case. Dr. Lee then gave a statistical account of the results of the Cæsarean operation during the last two centuries: he said, in the year 1639 Guillemeau performed this operation, in the presence of Ambrose Paré, on two women; and in both instances it proved fatal;—and Guillemeau had seen it performed in three other instances, and in all with similar bad results. In consequence of this unfavourable termination it was abandoned at this period by all physicians throughout France; but in two instances, where the mother had expired, it was performed, and the life of the child in each case was saved. In 1681 Mauriceau inculcated a similar doctrine, and asserted "that few cases could occur in which a dexterous accoucheur could not bring away the child; and considered the performance of the Cæsarean section too great an excess of barbarity to be practised on the living body." Dr. Lee observed that Dr. West had not spoken of Guillemeau, and remarked how this author mentions how many women tried to deceive him, showing the marks of wounds in the abdomen; but on investigating the history, he had found no such operation had been performed. This is all we find connected with this operation mentioned in Mauriceau's work, translated by Chamberlain, and which he (Dr. Lee) thinks was the text-book of all English accoucheurs; and, for the reasons above stated, this operation was then abandoned till 1737, when it was performed by an ignorant midwife in Ireland. Previous to the death of Mauriceau its performance became an ecclesiastical question, and they came to the decision that the child possessed a corporeal and a spiritual life; and were of opinion that the spiritual life of the child was of more importance than the life of the mother. Dr. Lee then went on to state, that in the year 1756 a consultation was held of the most eminent men in London, to consider the moral rectitude and advantage of inducing premature labour in cases which, if allowed to go to the full period, would necessitate the Cæsarean operation; and the first case which presented itself after the consultation was under the care of Dr. Macauley, and it terminated favourably. It appeared extraordinary to Dr. Lee that, for forty years, this great improvement in midwifery should remain unknown. He then quoted cases of the operation of the Cæsarean section, showing in numerous instances how unnecessarily it was resorted to:—First, a case of Mr. Robert Smith, of which no perfect account was given: both mother and child died. A case of Dr. Young's, of Edinburgh, in which the head of the child was found fixed in the pelvis, showing, Dr. Lee remarked, no necessity for its performance. A case of Dr. White, of Glasgow; also, of Dr. White, of Manchester; and of Dr. Hall, of Manchester, in 1798,—all equally fatal. Mr. Barlow's case Dr. Lee considered one of extra-uterine gestation; and if this was one of Dr. West's successful cases, he requested it might be struck out of the list. He then mentioned where it had been performed by Mr. John Bell, and the patient died in thirteen hours afterwards. After enumerating some more cases, all of which showed the dreadful fatality of this operation, Dr. Lee apologized for detaining the meeting so long, and so frequently addressing them; but he felt it his duty to state his sentiments, and he stood there to advocate the cause of humanity. (Great applause.) On resuming his discourse, he proved how useless this operation had been, and the great advantage to be derived from the induction of premature labour in such cases, as proved by the experience of the best midwifery practitioners. Dr. Lee himself induced it twelve times in one woman, with perfect safety; and had read that morning an account of fifty other cases similar in result. Dr. Merriman remarks, respecting the induction of premature labour, that nothing is more easily done, and that it renders the Cæsarean section unnecessary and unwarrantable. Dr. Lee, in continuation, observed that Dr. Denman mentions a whole family born by this process in the Strand, and remarked, that it is not a thing well known, viz. its induction in cases of high distinction. He said, in cases where the pelvis was so much distorted that the child could not pass at the seventh month, labour should be induced at the fourth or fifth; for that it was consistent with reason and humanity to preserve the life of the mother, and produce abortion. He (Dr. Lee) did not consider pelvic deformity the only case applicable to this line of practice, but also cases where tumors or cicatrices obstructed delivery, as well as in cases of organic disease of the heart. Dr. Lee said his object was to show the Society that the operation of inducing premature labour was both safe and easily performed. From the paper now read it appeared Mr. Wren had seen Mrs. Williams for five months labouring under mollities ossium of the bones of the pelvis. Many cases occurred in which there was no bending of the spine, but with pain about the pelvis, gradual inability to walk, being obliged to be carried from place to place; that it appeared to him that it had never crossed Mr. Wren's mind that a destructive disease was going on in the bones of the pelvis. Dr. Lee cannot believe but that, if Dr. West had seen the case in the seventh, or even in the eighth month of pregnancy, some other course would have been pursued; but Dr. Lee must believe the disease was not recognised. In another case it was known that this disease existed. Mr. Skey operated; and Dr. Lee asked why in this case was not premature labour induced? Mr. Jolin, a surgeon, on seeing the case, detected pregnancy, and the woman's very unfavourable situation. The antero-posterior diameter of the pelvis only being one inch and one-third, no reason was perceived why in this case premature labour was not induced. Dr. Rigby also had seen the case. The woman was kept for three months in St. Bartholomew's Hospital. Dr. Lee did not know why premature labour was not induced in this case, but it appeared to him to have been the fashion to do those grand things; but that he stood there to advocate the cause of humanity. Dr. Lee next mentioned a case where a woman afflicted with mollities ossium was seen during her first pregnancy by several practitioners in Scotland. Dr. Simpson, of Edinburgh, was also sent for, and saw the case. Nothing was done for her; she was allowed to go to the full period. When Dr. Simpson was again sent for, he arrived with needles, sutures, lint, ether (for chloroform was not then invented); but before he reached the patient's house she had been delivered by natural efforts.

On Dr. Lee resuming his seat,

Mr. Curling asked the President—Was there not a paper received from Dr. Oldham of another case similar to Dr. West's; and, under the circumstances, would it not be advisable that it should be read, so that discussion might take place simultaneously on both; and concluded by remarking that this course had not unfrequently been pursued.

The President, in answer, observed the lateness of the hour, and wished to adjourn the meeting, when

Dr. West rose and apologized for detaining the meeting; but considered Dr. Lee's statement was a sort of challenge, which required an explanation. He (Dr. West) should not like any one to leave that meeting supposing he was an advocate for the Cæsarean section; and as to the induction of premature labour in this case, he did not see it till labour had set in. The object which he had in bringing the case before the Society, was to see if any other course, under the circumstances, could have been adopted, so as to have averted the fatal result. He apprehended that all teachers of midwifery in London taught the necessity of inducing premature labour in such cases, and he should be sorry to sit down supposing that any one believed he underrated the value of the induction of premature labour; but, having found a case like the present one, he was anxious to hear the opinions, as to whether any better treatment could have been pursued, from some of those experienced midwifery practitioners who were present.

The President then stated that Dr. Oldham's paper should have precedence at the next meeting, and ordered an adjournment till February 11th.

MEDICAL SOCIETY OF LONDON.

February 1, 1851.

Dr. J. R. Bennett, President.

Large Sequestrum from Tibia.

Mr. Dampier exhibited the greater portion of a tibia which he had removed from a child then under his care. The shaft of the bone had become necrosed; and, in order to afford effectual relief, he had determined on dissecting out all the diseased part. The operation had been performed some weeks, and up to the present the patient had done well.

Calculus from the Urethra.

Mr. Henry Smith showed a calculus weighing upwards of half an ounce, which had been extracted from the urethra of a man some years ago, by his friend Mr. Dyer, of Ringwood, in Hampshire. The patient had suffered from symptoms of stone in the urethra for more than ten years, but had made no complaint of it until the time when he applied to Mr. Dyer, who found the stone lying just behind the glans, and an ulcerated opening over it, from which all the urine flowed. It was merely necessary to enlarge this opening, and the stone was removed. Mr. Smith had seen this patient a short time since (eleven years after removal of stone), and he found that there was a large quadrangular opening in the urethra still unhealed, through which all the urine flowed. The stone, which was of a phosphatic character, and about three-quarters of an inch in diameter, and more than an inch and a quarter long, gently nodulated like a potato bulb. Whether the stone was of that size when it originally escaped from the bladder, or whether it had gradually increased since its sojourn in the urethra, was a question of great interest. Mr. Smith was inclined to believe, taking into consideration the length of time the stone had been located in the penis, that the greater part of it had been deposited since it had first taken up its position there.

Employment of the Speculum in the Treatment of Uterine Affections, and the Application of Potassa Fusa to the Os Uteri.

Mr. Greenhalgh read a paper containing the result of his experience of the value of the speculum as a means of diagnosis; and also an account of two cases of ulceration of the os uteri, in which he made use of the caustic potash, with most unsatisfactory results. It was argued, from the examination of more than 1000 patients, that, in the first place, ulceration was a very rare disease; while the milder forms of disorders affecting the mucous membrane of the os uteri required neither the speculum for their detection, nor the application of solid caustics for their cure; general treatment, sea-bathing, mild injections, change of air, being, in the vast majority of cases, quite sufficient to effect a cure. In the two cases referred to, severe peritonitis followed the application of the caustic, in spite of the observance of the strictest precautions. After active treatment the patient in both instances recovered.

An adjourned discussion took place, the report of which will be given next week.

At the Meeting held on Jan. 19th ult.,

Mr. E. Canton presented to the Society a diagram representing

Four Instances of Diverticula Ilei

which he had met with, and pointed out certain peculiarities connected with each. A recent specimen was also shown. Another abnormality of the same kind was exhibited, which Mr. Canton thought might prove interesting to the Fellows, in connection with the cases lately related to them by Mr. Nunn. The preparation had formerly been in the possession of the late Mr. Howship, and the particulars of the case were as follows:—A preternatural appendix opening into the ileum, and attached at the other extremity, by a small omental hernia, to the umbilicus. It produced fatal ileus, from a part of the small intestine passing in such a manner through it that it operated as a ligature, preventing any passage through the canal, the superior parts of which, as in strangulated hernia, were very much enlarged.

[In the report of the discussion on Mr. Hancock's cases of Internal Strangulation, an error was made in the part relating to Mr. Gay's observations, which we are desirous of correcting.

The small intestine was found strangulated on the right side, at least twenty-five inches from its termination in the cæcum, by a ring formed in front by the vermiform appendix, and behind by a strong adventitious band: the anterior part of the ring thus constituted had become adherent to the bowel.

The bowel was simply withdrawn; the constricting tissues were not divided, as stated in the report. The fæcal accumulation was seen to flow onwards into the lately collapsed and empty gut, and the patient lived 23 hours after the operation.

Mr. Gay believed that the fatal termination which had almost invariably followed operations for internal strangulation, was due, not to the nature of the operation, but to the delay in resorting to it.]

Preservation of Anatomical Preparations.

[In our last report it was stated that the method of preserving anatomical preparations by arseniuretted hydrogen gas was introduced to the notice of this Society by a Mr. Middleton. We are requested to state that the gentleman who brought forward this subject, and to whom alone the merit is due, is Mr. B. W. Richardson, of Mortlake, Surrey.]

EPIDEMIOLOGICAL SOCIETY.

February 3rd, 1851.

Dr. Babington, President, in the Chair.

On the Propagation of Cholera by Contagion.

The third ordinary Meeting of this Society was held on Monday, the 3rd of February, in the rooms of the Royal Medical and Chirurgical Society.

Seven Members, Nine Corresponding, and One Honorary Member, were admitted; and Seven new Candidates for Membership were proposed.

A paper, by Dr. **Hoskins**,

On the Origin and Progress of Cholera and Small-pox in Guernsey,

was read by **Dr. Gull.**

The facts recorded by Dr. Hoskins were highly interesting, for the most part adverse to the doctrine of contagion.

Mr. **Grainger** said that, if a widely extended view were taken of the history of cholera, he thought that the diffusion of the disease appeared to be affected rather by places than by persons, and that the proof of its communicability from one person to another would be insufficient.

Mr. **Hunt** admitted that, at certain times and in certain places, the disease did not appear to be contagious; but he believed that, on other occasions, it was clearly to be traced from person to person. He therefore was inclined to think, that, like erysipelas, purperal fever, and other diseases, it varied in its type; being sometimes contagious, at other times not so.

Dr. **James Bird** said he had seen much of the disease in India; that, in a certain sense, it was never contagious, and never thought to be contagious in that country; but where the diseased were congregated together, a degree of infection was generated; and that when it broke out among troops, many sleeping in the same apartments, its spread was soon arrested by the men being ordered into separate tents.

Dr. **Gull** said that, if the disease was generated by the diffusion of putrid gases, he did not see how it could ever become contagious. On the other hand, if the germs of the disease were transmitted in a solid form, from person to person,—a condition in some sense necessary to contagion,—it was difficult to conceive that atmospheric influence alone should promote the disease.

The paper announced to be read at the next Meeting, in March, is "On the Yellow Fever, which has lately appeared in the Brazils."

The **President** announced that the Treasurer had received a cheque for Five Guineas from David Fullerton, of Kidbrooke Park, Forest Row, Kent, Esq., as a contribution towards the funds of the Society; and expressed a hope that so good an example would be followed by many others.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Jan. 23, 1851.

Sanguineous Apoplexy. **Dr. Hibbert Taylor.**

Mrs. L., æt. 65, in apparently good health, complained of sudden and violent pain of the head, and fell back unconscious upon her pillow, without any convulsion; the breathing becoming stertorous, the countenance pale, and the surface cool.

About twenty minutes after the commencement of the attack she was supported in bed in the sitting posture, talking constantly and incoherently, throwing about her arms, and swinging the body to and fro in a restless manner. The breathing was somewhat stertorous; she was affected with a frequent, short, hiccupping cough, and occasionally vomited a frothy mucus. The countenance was vacant; but there was no distortion of the features, nor any palsy of the limbs. The pupils were of medium size, regular, and contracted on exposure to light. The surface of the body was moderately warm, the lower limbs rather cold, and the pulse somewhat feeble, but regular.

The pulse having improved in strength, in about a quarter of an hour a vein in the arm was opened; she became calmer and more collected as the blood flowed, and, at the conclusion of the operation, ℥xx. having been abstracted, she was sufficiently recovered to recognise those around her, and to answer questions intelligibly. She protruded the tongue easily and fully when requested, and complained much of pain in the forehead. The headache was relieved by leeches subsequently applied to the temples. The *bowels* were moved spontaneously during the venesection, but scarcely acted again for three days, notwithstanding the use of various powerful cathartics.

On the third day, after the repeated exhibition of active purgatives, the bowels were freely moved, and continued afterwards to act with tolerable regularity. The motions from the first, with one or two exceptions, were apparently passed unconsciously. On the same day (*i. e.*, the third) the *pulse* was between 80 and 90, and of good strength; she was composed and natural in appearance and manner, and replied intelligibly and rationally to any inquiry made. She was sometimes restless, throwing about her arms, and catching at the bed-clothes, apparently without any definite object. This condition alternated with periods of quiet, when she appeared to sleep heavily, and the breathing would become hard and stertorous. There was no paralysis either then or during any period of her illness.

On the fourth day the tongue became furred and dry, the pulse somewhat feebler, and the intelligence more obscured. She wished to remain quiet, and seemed annoyed when disturbed; but still she replied rationally and intelligibly to any question addressed to her.

By the frequent and continued use of various articles, both stimulating and nutritious, which she swallowed easily and readily, the tongue became moister, but the pulse rather diminished in strength and increased in frequency.

On the evening of the 6th day she became very hot and feverish, and passed a restless night. On the following day she was much more confused in mind, and did not know those around her. She protruded the tongue with difficulty, and replied slowly and with hesitation to questions asked. The pupils at this time were of medium size, and still affected by light. She was observed in the evening to have some difficulty in swallowing; and her strength was evidently failing. She became decidedly worse early on the morning of the eighth day, about the same hour on which she had been seized a week before; gradually lapsed into a state of coma, and died quietly in the afternoon. There was no paralysis during the whole course of her illness, nor any complaint of loss of sight so long as she was able to reply to queries.

This case from the commencement was evidently unfavourable; and, although a temporary improvement seemed to result from the venesection, and was maintained during several days, it was yet attended with several circumstances which materially lessened the hopes which might otherwise have been built upon it.

1. The woman fully regained her consciousness and intelligence. She would answer questions clearly and distinctly, and take any food or medicine which was given her; but she never asked for anything, and seldom made any inquiry. When not restless and uneasy, was drowsy and forgetful,—the harbinger of that state of coma into which she ultimately sunk.

2. The fæces and urine were passed involuntarily from the first, and apparently without her knowledge, or at least without her giving any indication that she was ware of it.

Post-mortem 24 *hours after death.*—There was considerable turgescence of the vessels of the pia mater, especially on the left side, and towards the anterior lobe of the cerebrum. On raising the brain, a considerable quantity of bloody serum was observed in the cavities at the base of the skull; and coagulated blood to the amount of several ounces adhered to the base of the brain, particularly beneath the anterior lobes, and filled the fissure of Sylvius, between the anterior and middle lobes. It was especially abundant on the left side in both these situations. The figure of the brain had not perceptibly altered by the extravasation, nor did it appear to have pressed readily upon any of the tissues attached to the base of the brain. The latent ventricles were distended with bloody serum, and a few hydatid-looking bodies were observed adhering to each choroid plexus. The brain was of large size, firm consistence, and otherwise healthy. No ruptured vessel could be detected, nor was the blood effused into the cerebral substance in any part.

Abercrombie's Three Classes of Apoplectic Affections.

1. *Those which are Primarily Apoplectic.*
2. *Those which begin with a violent attack of Headache, and pass into Apoplexy gradually.*
3. *Those which are Paralytic from commencement.*

The object in bringing forward this case was not so much to give detail of its symptoms and post-mortem appearances, which were similar to those observed in many instances of the same class, but rather to draw attention to the treatment, and especially to the important question of venesection in apoplexy.

Abercrombie states that, so far as he had observed, cases belonging to the second class were generally fatal; and, from the history of the case which I have detailed, and the appearances observed after death, we can hardly suppose that the issue, under any plan of treatment, would have been otherwise than it was. The probability is that a blood-vessel gave way within the cranium at the commencement of the attack, from which a gradual hæmorrhage took place, inducing coma and death.

The marked and speedy improvement which followed the loss of blood in this instance seems to confirm the propriety of the practice adopted: at the same time, I am not prepared to deny but that the intellectual faculties might have been more gradually, but as surely, restored without having had recourse to venesection.

Presuming that the lesion had occurred which examination after death proved to have actually taken place, I bled the patient,—not with the view of lessening the quantity of blood within the cranium, which could not be accomplished by any blood-letting, however profuse, but in the hope that, by diminishing the impetus of the general circulation, the vessels of the brain would thereby be relieved of a certain amount of pressure from *without*, and so be less likely to pour out their contents: and the beneficial result which so immediately followed appears to attest the soundness of the theory.

In the cases belonging to this class, detailed by Dr. Abercrombie, he not unfrequently found the pulse very feeble, and the surface cold, on first visiting them, and yet he was not thereby deterred from practising venesection largely. The pulse in some instances increased in strength and volume while the blood was flowing; and, although recovery did not take place in any instance, and the post-mortem appearances are sufficient to show that this was impossible,—still temporary relief to the symptoms was afforded.

With all deference to so high an authority, I must say that I should decline adopting a similar practice in such circumstances, whatever my *theoretical* notions as to the state of the cerebral circulation might be: when the pulse, however, is of moderate strength, and the surface warm, I would not hesitate to open a vein, and would be guided in the amount of depletion to be practised, entirely by the effect produced upon the pulse and the cerebral symptoms combined.

In these few remarks I have restricted my attention solely to cases belonging to Abercrombie's second class of apoplectic affections,—viz., those commencing with violent headache, and followed, at a longer or shorter interval, by coma. The propriety of bleeding in cases belonging to the first and third class,—viz., such as are either primarily apoplectic, or paralytic—probably opens a wider field for discussion and diversity of opinion; but upon that I shall not attempt to enter.

Dr. NEVINS was surprised that, notwithstanding the high authority of Abercrombie, the notion of the invariable uniformity in the quantity of blood in the brain could ever have gained credit in the profession. It rested upon an unsound theory to begin with, and appeared to him to be utterly inconsistent with facts which were open to the observation of every one. Dr. Abercrombie started with the acknowledged truth, that fluids are nearly incompressible, and that a vacuum does not exist in nature; and then upon this built his theory that the skull, being full of brain to begin with, no more fluid can be forced into a full vessel,—*ergo*, the brain cannot contain more blood at one time than another: but he appeared entirely to have forgotten or overlooked that the brain is compressible, and also elastic, and that, therefore, a larger amount of blood may be forced in by compressing the brain; and, on the other hand, if the blood is abstracted, the elasticity of the brain enables it to expand in a slight degree and fill up the space. In cerebral affections of infants the distension of the brain is visible to the eye by the protrusion at the fontanelles, and also its shrinking by their depression; and, in opening the skull in adults, it often happens that the brain starts out of its bounds the moment the constraint of the skull is removed: and it is impossible to replace the whole of it within the cranium. In other cases, on the contrary, the brain appears shrunk, and manifestly does not fill the skull. In many cases, also, the brain is evidently gorged with blood, which oozes constantly from every cut surface; whilst in others not a drop of blood is to be found on slicing it. The gorged state of the veins had forced itself upon the notice of Dr. Abercrombie; but, having made his theory, he was compelled to reconcile the obstinate fact, and accordingly assumed that the arteries were correspondingly empty, though without any satisfactory proof that they are so. Dr. Nevins referred to the experiments of Dr. Burrows upon animals strangled and bled to death, which confirmed this view of the case. The question was not one of mere theoretical quibbling, but of practical bearing upon our treatment,—all of which, whether bleeding or position, topical cold, or the removal of obstructions to the circulation, depended for their efficacy upon the actually varying quantity of blood within the skull, and were liable to be pursued with less confidence if we adopted the theory of its unchangeable amount.

Mr. HIGGINSON supported these views, and alluded to the capability of motion at the foramen magnum, through which the medulla oblongata could be forced to a certain extent down the spine, and thus afford increased space for the blood within the cranium.

Dr. HIBBERT TAYLOR questioned the value of the evidence from the heads of infants, as their open condition allowed room for expansion and contraction, and for the influence of the external pressure of the air; and so far they were not analogous to the closed state of the adult cranium.

Poisoning by Prussic Acid—Death after two hours and a half. Dr. NEVINS.

A kitten was struck on the head, and shortly after began to have fits resembling epileptic, which occurred several times daily, until it was determined to destroy it. Fifteen minims of Scheele's prussic acid were given, by five minims at a time, in the course of about a minute. The first two doses elicited cries of pain, but no signs of approaching death, though he had often found that dose sufficient. After taking the third five minims the ordinary convulsions caused by the acid came on: respiration almost ceased, the legs were extended, and it seemed about to die in a few seconds. After an interval of about four or five minutes the breathing became more natural, and the animal began to move its legs as if trying to gain an erect position (it was lying on its back). These signs of returning life continued to increase for about twenty minutes, when it had a severe fit in every respect resembling epilepsy in the human being. It was laid down, and the fits continued every few minutes for two hours and a half, when it died.

Post-mortem.—No softening of the brain or cerebellum, or local injury from the blow, could be detected; the veins and sinuses were congested, but there were no other unusual appearances.

In this case there could be no doubt about the death being caused by the poison, and its long delay suggested the inquiry whether the previous epileptic affection had such an influence as to make the nervous system less rapidly susceptible of the influence of the poison. The longest interval of which Dr. Nevins had seen records, was about half an hour in cats; and a case reported by Mr. Nunneley, of Leeds, in which the patient ran up stairs after swallowing the poison, and performed some other actions, and survived nearly three-quarters of an hour. The case was, therefore, not without its importance in a medico-legal point of view, as affecting the length of time during which voluntary powers continue after taking prussic acid.

ACADEMY OF MEDICINE, PARIS.

Jan. 21, 1851.

Simultaneity of Variola and Vaccinia.

M. **Zandyck**, Member of the Council of Health of Dunkirk, transmitted an essay on the epidemic of small-pox which had occurred there in the years 1848-49. In this essay the author laid down the following positions as the results of his experiments and observations:—

1. When small-pox and cow-pox are simultaneously developed in an otherwise healthy infant, that alone of the two eruptions which had the priority of invasion influenced the other, and was uninfluenced itself. 2. During the period of incubation of small-pox, vaccination should be practised, as it modifies the character and course of the small-pox. 3. Vaccination may be practised even at the decline of the variolous eruption: any danger which may attend the case is to be attributed to the variola.

Physiological and Therapeutical Effects of Brucia.

M. **Lepelletier** addressed a memoir, in which he stated that the administration of brucia is unattended with any danger, and that it may, in certain cases, supersede the administration of strychnia.

Prolapsus of the Rectum.

M. **Jobert**, de Lamballe, read a report on a case related in an essay by M. Bosio. The case itself presented nothing remarkable. The treatment consisted in the application of compresses saturated with alum, and pressure by a stone of a square shape. The tumor was reduced, but the cure was not effectual, as the prolapsus had recurred.

Treatment of Hydrocele by Ammoniacal Gas.

M. **Robert**, in the name of M. Velpeau, read a report on observations respecting this mode of treating hydrocele, by M. Bonnafont, of Arras. The author stated that the injection of gases was preferable to that of liquids, inasmuch as a foreign body was not thereby introduced into the sac. The reporter observed that, as the patients of M. Bonnafont had been lost sight of, the ultimate result could not be affirmed. The reporter, however, had himself made trial of the plan in eight cases. In all these the introduction of the gas has been attended with more pain than stated by M. Bonnafont, although lasting a shorter time than when liquid injections were employed. The consecutive phenomena were remarkable for their simplicity; the inflammation moderate, the reaction trifling, and all traces thereof had disappeared in a few days. But this very slightness of the effects was found, by prolonged observation, to constitute a fatal objection to the plan, since, in six out of the eight cases, the disease had returned after the lapse of a few months: the other two were cured.

Artificial Premature Labour.

M. **Chailly-Honoré**, candidate for the obstetric section, transmitted an essay on the production of premature labour, and on the means employed for the reduction of the size of the fœtus. The object of this work was the solution of the following question:—In cases of pelvic deformity or disproportion, is it preferable to have recourse to the artificial induction of labour rather than to the attempt to reduce the size of the fœtus by depletive and dietetic measures applied to the mother? The author decided in favour of premature labour, and pointed out the uncertainty and danger of low dieting, &c.; stating it as his opinion, that the plan was injurious with reference to the ultimate delivery of the child, diminishing the chances offered by the induction of premature labour.

SURGICAL SOCIETY OF PARIS.

Jan. 15, 1851.

On the Diagnosis of Fractures of the Fibula.

M. **Maisonneuve** communicated to the Society a means of diagnosis which seemed to him to be infallible in cases of submalleolar fracture. This consists of the following proceeding:—If the injury be in the left leg, the four fingers of the left hand embracing the anterior and internal face of the tibia, the thumb of the same hand is made to press forcibly on the posterior border of the fibula, a little above the external malleolus. The four fingers of the right hand are at the same time applied to the sole of the foot, while the thumb is made to press against the summit of the internal malleolus. On exercising an alternate forcible pressure with each thumb, it will be found that, when the right thumb is pressed on the malleolus, the left thumb being placed higher, feels distinctly the upper fragment of the fractured bone: then, by discontinuing the pressure, the fractured end of the bone returns to its former position, and is no longer felt projecting.

M. Maisonneuve stated that this process was not merely empirical, but was founded on observation of the direction of the fracture in all cases of this injury to the fibula, in which it is invariably oblique, the inferior fragment being directed posteriorly, and being moveable, while the upper portion is firmly bound to the tibia.

M. **Debout** remarked that this plan had long been employed in practice. He had himself frequently adopted it, and he had heard it described by M. Robert.

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It did not appear that the Society regarded this instrument as possessing particular value.

Jan. 22, 1851.

Lithotomy by M. Seen's Operation in a Case where the Stone could not be removed by the Bilateral Operation.

M. **Lenoir** related the particulars of a case in which he had found all the traces of the previous operation, but in which the stone had been left in the bladder. The case having become urgent, M. Lenoir substituted the following, or M. Seen's proceeding: — Instead of Dupuytren's two oblique incisions, a simple incision to the left is made, as in the lateral operation; to this is added a transverse incision to the right: so that by these two a larger opening is made. The stone having been seized, it was found to be very difficult of extraction. In the efforts which were made, it broke into two pieces, and these were removed separately. The stone measured two inches and a half in length.

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Monthly Summary, Nov. 1850.

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This tumor was found, after long and careful examination, to be a fibro-plastic growth; its source was uncertain: the pituitary gland had disappeared, or become transformed.

There were no means of ascertaining what symptoms had been manifested during life. The globe of the eye presented no signs of disease. The muscles of the left arm were atrophied and discoloured, and were undergoing the fatty transformation. The fingers were tightly clenched, so that they could not be extended. The median nerve was atrophied, and its neurilemma was thickened. There were some traces of meningitis on the opposite side of the brain, to which this paralytic state of the limb was attributed, rather than to the presence of the tumor, which, having been situated in the middle line, would have caused symptoms on both sides.

Hospital and Infirmary Reports.

GUY'S HOSPITAL.

Severe Laceration of soft parts upon the Dorsum of the Foot, exposing and tearing the Extensor tendons—Violent separation of the Great Toe from the Second Toe, and Fracture of its Metatarsal Bone —Laceration of the Dorsal Artery of the Foot. Recovery without amputation.— (*Dresser*, Mr. ODLING.)

PATRICK NEILL, æt. 11 years, was admitted into Guy's Hospital, under Mr. Hilton's care, June 15th, 1850. Resides with his parents at Bermondsey. He is a rough Irish lad, possessing a most unintellectual countenance; is unable either to read or write, and can scarcely speak English, being a recent importation into this country; gets his living in the streets as an orange-vendor. On the morning of admission, whilst crossing the street near London Bridge, he was knocked down by a cart, the wheel of which passed over his foot, causing severe laceration and contusion of the integuments over the dorsum of the foot. On examination, the wound extends from the ankle to the toes, being most severe near the centre of the foot; the skin was torn from the subcutaneous cellular tissue to a considerable extent, exposing several of the superficial nerves, and laying bare the extensor tendons of the toes: there was violent separation of the great toe from the second, and the metatarsal bone of the former was fractured; the dorsal artery of the foot was torn through, but there was no hæmorrhage of importance after his admission. He complained of severe pain when the surface of the wound was touched; and, to relieve this, the sensitive nerves exposed were divided; the surface of the wound was then carefully cleaned from all extraneous matters, and cold wet lint was applied; the leg was placed in splints, and swung from a cradle, in a similar manner to a fractured tibia.—He was ordered Pil. Col. c. Cal., gr. x. statim; Hydrargyrum c. Cretâ, gr. ij.; Pulv. Doveri, gr. v. bis die.

16th.—The appearance of the wound is at present very unhealthy, its surface showing a disposition to gangrene: he is, however, quite free from pain, or any constitutional symptoms, and eats heartily whatever is given to him. Bowels not having been moved,—Pil. Col. c. Cal., gr. xv. statim, et Haustus Sennæ post horas sex. si opus sit.

17th.—The wound is sloughing with a very fetid discharge. In consequence of so many sensitive nerves being exposed, it was feared that tetanic symptoms might supervene; but at present there is no indication of any such affection. Ordered Hydrargyrum c. Cretâ, gr. iv.; Pulv. Doveri, gr. v. bis die.

19th.—Several detached portions of slough have been removed, and there is a copious and highly fetid purulent discharge. He is still quite free from pain, and altogether there is not much constitutional disturbance. Pulse quickened; tongue furred. Support being indicated, he was ordered three ounces of Wine daily. Rept. Pulv. bis die.

25th.—The wound has assumed a much more healthy appearance, and discharges very freely. His gums being now slightly affected by the mercury, it was to be discontinued. Poultice to be applied.

30th.—Healthy granulations are springing up in every direction, and he seems altogether much improved.

July 2d.—All febrile symptoms have

entirely disappeared, whilst his tongue is moist and cleaning. As his pulse seemed to indicate tonics, he was ordered—Ammoniæ Sesquicarb. gr. iij.; Decocti Cinchonæ, ℥iss. ter die.

10th.—The wound is healing favourably, and his general health is much improved. From this time he continued to progress very favourably, until an abscess formed in the sole of the foot, which was opened, and a small piece of necrosed bone subsequently came away through the opening. The abscess healed up by granulation, and the patient continued in the Hospital some time after, slowly improving, his foot becoming occasionally inflamed—apparently produced in part by the restless condition of the patient, as well as errors in diet, from indiscretion on the part of his friends—requiring the frequent use of purgatives. On leaving the Hospital in the autumn, scarcely any deformity was apparent in the foot; so that the recovery may be said to be complete, with every prospect of the limb being quite useful to him.

The injury to the foot in this case was a very severe one; and the probable chance of saving the limb seemed at first sight very doubtful, owing to the numerous structures which had been implicated: indeed, the laceration of the dorsal artery of the foot, the exposure of the sensitive nerves, the fractured metatarsal bone, and the violent and forcible separation of the great toe from the adjoining one,—all seemed to denote such a degree of severity in the accident as to require immediate amputation: but, on examining further, it was found that the sole of the foot, with the larger arteries and nerves, were comparatively uninjured, and there was no difficulty in maintaining the fractured ends of the metatarsal bone in apposition; whilst the lacerated dorsal artery of the foot was not of that large size or of sufficient importance to give rise to any serious alarm, inasmuch as the supply of blood would be kept up by the numerous anastomosing vessels coming off from the plantar arteries, and perforating the spaces between the different toes.

The probable and more serious complication to be feared was the supervention of tetanic symptoms, in consequence of the numerous small nerves which were exposed on the surface of the wound: their division, however, gave great relief to the patient, and at the same time, doubtless, diminished the liability of any such affection coming on. The constitutional symptoms throughout were of the mildest character, and scarcely sufficient in themselves to claim attention.

Cases are frequently coming under observation, in the hospitals of this metropolis, of mangled and severely lacerated limbs, not unfrequently caused by the passage of heavy bodies, as cart-wheels, &c., over the extremities, but too often arising from some carelessness or negligence in the management of machinery. The three cases above reported all owe their origin to these causes, and came into the hospital within a few months of each other. Their chief interest consists, not in the supervention of any remarkable symptoms during their progress, but rather in the mildness of those constitutional symptoms which we naturally look for and expect in injuries of so severe a nature as to destroy the vitality of the tissues, and which are often followed by such extensive disorganization and sloughing of soft parts as either to endanger the life of the patient by the low typhoid state which follows, or to wear him down by long-protracted suppuration.

It will be observed that neither of these cases was attended with any hæmorrhage of importance on admission; and, indeed, in most cases of this description of injury, bleeding at the commencement may be regarded rather as the exception than the rule,—a circumstance which is prevented, to some extent, by the irregular surface of the wound favouring the coagulation of the blood, and by its adherence to the torn edges of the wound; whilst it is an old-established fact in surgery, that torn arteries do not bleed like those which have been cut, and which is supposed to depend partly upon the violent extension producing some change in the disposition of their tunics, as well as by the retraction and contraction of the torn ends immediately following the injury.

Well-marked instances of this are frequently seen in Railway accidents, where limbs almost severed from the body are scarcely attended with any hæmorrhage worth speaking of, even although the main artery of the limb has been torn through.

A case in which this was well exemplified came into Guy's Hospital, under Mr. Hilton's care, during the last summer, in a lad whose thigh was frightfully mangled and lacerated by machinery. The muscles were torn through, the femoral artery divided, and the femur completely exposed and laid bare across the lower part of its upper third. The hæmorrhage, however, was very slight on admission, neither did his condition indicate that it had been to any great extent previously. As he was free from collapse, and any attempt to save the limb was quite out of the question, the patient was carried into the theatre, when Mr. Hilton amputated through the trochanter close to the hip-joint: in consequence of the extensive laceration there was no choice of operation, and flaps were made to cover the bone from those parts where the integument was least injured. The patient continued to progress as favourably as could be expected for several days after the operation, when phlebitis, which was at that time very prevalent in the Hospital, came on, and he speedily sank.

The remarkable case recorded by Cheselden in the Philosophical Transactions, in which a man's arm was suddenly torn from his body, without being followed by hæmorrhage, is perhaps as forcible and familiar a case as can be mentioned; and, indeed, many other cases are recorded, where limbs have been torn off in a similar manner, in which the hæmorrhage has been so slight as to be arrested by means of a piece of lint, or by slight pressure being applied over the bleeding surface.

The pain which the patient suffers in these cases appears to bear an inverse proportion to the degree of contusion which has been inflicted on the part: thus, for example, when the wound is moderately contused, the pain is generally very severe; but if, on the other hand, the parts have sustained such a violent degree of contusion as at once to destroy their organization, the patient scarcely suffers any pain at all.

Contused and lacerated wounds, however, are perhaps more to be dreaded from their subsequent effects upon the constitution, than from the immediate result of the injury. If the injury be not very severe, the part is gradually repaired by granulation, without any important constitutional disturbance; but, if a still greater degree of violence has been inflicted, gangrene and sphacelus often follow, giving rise to such severe constitutional symptoms as either to destroy the patient speedily, or, what more frequently happens, he is run down by the copious and long-continued suppuration which results: but if these accidents occur in persons whose constitutional powers are good, and at an early period of life, the chances of recovery are, of course, considerably increased.

The general principles of treatment in injuries of this description are very simple. The wound should be cleaned as carefully as possible from dirt and all other extraneous matter: if the skin is torn from the cellular tissue underneath, and hangs in loose ragged shreds, it is in general better to remove it at once, rather than allow it to remain, to become gangrenous; but if, on the other hand, the skin is merely torn from its cellular bed over a small extent of surface, and hangs in a loose flap, in itself not much contused, we are often justified in attempting to procure union, even although the chances be very slight: and, under these circumstances, it is better to bring the edges of the wound lightly together, by means of a few strips of adhesive plaster, so as to favour the adhesive process wherever the parts are in a condition to allow of it; and, indeed, as this fortunate event only occasionally takes place, it does not justify one either in bringing the parts into forcible apposition by means of sutures or bandages. The chief indications remaining are to keep the limb at rest in an elevated posture, so as to favour the return of venous blood; whilst the best and most soothing local application to the patient will in general be found to be the warm water dressing, which is very frequently used in Guy's Hospital. Some difference of opinion prevails amongst surgeons respecting the relative value of hot and cold applications in injuries of this description. Cold has been strongly advocated by Assalini and others, on the principle of lessening the temperature and preventing inflammation of the part: he also believes that it has the good effect of rendering the suppuration which must ensue less profuse than it otherwise would be. Cold would undoubtedly be the proper application in cases where there is a probability of hæmorrhage immediately after the receipt of the injury, or where there is danger of extravasation of blood; but, under other conditions, warm water dressings appear to possess the following advantages:—they are in general much more agreeable to the patient, and, when first applied, do not produce those sensations of chilliness and shivering fits after cold applications. Water dressings, however, are of undoubted value: they are easily removed, without disturbing the part, and allow one to see what is actually taking place; they can be frequently changed, and are easily replaced; and at the same time are the surest means of maintaining that state of cleanliness which ensures so much comfort to the patient, and which can scarcely be appreciated, excepting by those who have actually experienced its value. But whilst the local treatment deserves careful attention, the constitutional, of equal importance, must not be forgotten. Care should at all times be taken, even at the very commencement of the illness, that the strength of the patient be not allowed to fail for want of nourishment; the bowels should be regulated, and the general state of the secretions attended to. If any constitutional symptoms arise, they claim our best attention to endeavour to allay them.

Mr. Hilton has of late pursued a plan of treatment already detailed in the preceding cases, and which has generally been attended with beneficial effects. It consists in the exhibition of mild mercurials, in the form of Hyd. c. Cretâ combined with Dover's Powder. The mercury appears to act as an alterative, and to regulate the secretions and excretions of the body; whilst the Dover's Powder tends to compose the patient, and thus to allay pain, whilst at the same it lessens that nervous irritation which is so frequently met with when severe injuries have been inflicted, or a large extent of surface has become exposed. Cases of this description, and indeed others in which much constitutional disturbance has been feared, have been treated in a similar manner at Guy's Hospital during the past summer, in most of which this absence of constitutional irritation has been observed. It is true that in the cases above related it might be argued that the injuries were all in young subjects, and at periods of life when severe constitutional symptoms would have been least likely to happen. In answer to this, however, it may be stated that like cases have occurred in which the patients had attained a more advanced period of life, and which have been attended with the same happy termination. As soon as suppuration becomes established, and in many cases even before, care and attention should be paid to support the powers of the patient by stimulants and tonics; all lodgments of putrid matters should be avoided, inasmuch as, by contiguity alone, they may be capable of inducing a similar condition in structures which, although alive, have had their vitality reduced by local injury or constitutional depression. And when the excavations caused by the sloughs have become filled up by granulation on a level with the adjacent skin, great advantage will often be derived by bringing the opposite margins of the wounds into apposition by means of adhesive plaster; thus taking off the tension, and favouring the formation of new skin: if this should not have the desired effect, the powder composed of zinc, starch, and opium, in the proportions stated in the report of the first case, will be found a most useful application: it appears to act by protecting the surface from the action of the atmosphere, allays pain, and has a slightly astringent effect, thus tending to diminish the amount of suppuration.

The consequences and probable results of severely contused and lacerated wounds require to be well considered at the commencement, so as to decide upon the plan of treatment to be adopted; inasmuch as great destruction of skin and large sloughing surfaces not unfrequently make greater calls upon the constitution than it can answer for; prostrating the patient by the low typhoid symptoms which supervene, or exhausting him from the long-continued suppuration which may ensue: whilst daily experience shows how great are Nature's powers in the reparation of injury, of which the preceding cases afford ample evidence.

ST. BARTHOLOMEW'S HOSPITAL.

Femoral Hernia — Death — Post-mortem examination.

Sophia ——, æt. 37, a laundress, has had a femoral rupture on the right side for four years, and has worn a truss during the same period. Three years ago, the descent of the bowel was followed by severe symptoms of strangulation, but its reduction was accomplished, in this Hospital, without an operation. She remained tolerably well until four days ago, when, while retching with sickness, the bowel came down, and she was unable to return it. She applied to a surgeon, who gave her a great deal of medicine, and tried frequently to reduce the rupture: each attempt was followed by a great deal of pain. She had frequent vomiting.

Dec. 24th, 1850.—Admitted, under Mr. Stanley, at 11 A.M. She states positively that her bowels have been open daily since the coming down of the rupture; her vomit is stercoraceous; her countenance anxious; pulse frequent and small; and her tongue furred: there is a large soft swelling in the right groin, which gives to the touch an obscure sense of fluctuation; it is not painful, but the skin over it is very red; the lower part of the abdomen, on the other side, is acutely tender.

At 3 P.M. the operation for its reduction was performed. On opening the sac, a large quantity of fluid escaped: a knuckle of intestine, having a dark livid red appearance, was exposed; its coats were thickened, congested, and rough. On passing a director underneath Gimbernat's ligament, there immediately issued some turbid fluid, apparently fæculent, which was thought to come from the intestine; the director was therefore removed, and introduced under the upper and outer part of the ring, which was divided, and a fresh portion of the intestine was drawn down, and thoroughly examined, but no wound or aperture could be discovered; it was therefore returned into the abdomen after some further division of the ring and neck of the sac, which was found necessary.

She was ordered to take Pil. Sapon. Co. grs. v. directly. In the evening, as the opium had no effect, she was ordered to take half a grain every hour. This was altered, after a few doses, to half a grain every two hours.

25th.—In the afternoon the abdomen became extremely painful and tender; the pulse was 158, and scarcely perceptible; the vomiting returned; the bowels were relieved once, but the patient sunk rapidly, and died at 5 P.M.

Post-mortem examination 18 *hours after death.*—In the peritoneal sac there was a large quantity of turbid fluid, very similar to that which escaped at the time of the operation, but without the fæcal odour. The folds of the intestine were everywhere agglutinated to each other, or to the walls of the abdomen, by flakes of lymph; here and there was a small quantity of pus. The ileum, about five inches from its end, was the part that had been strangulated: a portion of it was much congested and thickened, and at one point there was a dark spot, where sloughing of the intestine had commenced; the mucous membrane in the interior was ulcerated in a circle corresponding to the point of constriction. The walls of the intestine were again thoroughly examined, to ascertain whether any escape of fæces could have taken place through them, but they were found to be entire. The intestines were filled with flatus, and at one point they were compressed rather tightly by a band of omentum, which was fixed, by an old adhesion, to the abdominal wall, just above the internal ring on the right side.

Protrusion of Intestine between the External Abdominal Ring and the Saphenous Opening—Strangulation—Death—Post-mortem examination.

Mary ——, æt. 60, a laundress, has had a rupture on the left side for 20 years; has never worn a truss, nor experienced any inconvenience from the rupture; it has always gone up on her lying down, until a week ago, when it became painful, and she could not reduce it; she vomited several times, and her bowels became confined; she took some aperient medicine, which produced one small evacuation. As the sickness and constipation continued, she applied to a surgeon, who tried to reduce the hernia, but without success, and immediately sent her to the Hospital, where she was admitted on Jan. 13th, 1851, under Mr. Stanley, at half-past 9 P.M. There was a swelling, about the size of a pigeon's egg, on the left side, and apparently in the ordinary situation of a femoral rupture; the bowels remained confined, and there was occasional vomiting; there was not much pain in the abdomen, nor in the rupture, and the pulse was good. She was placed in a warm-bath, and attempts were made to return the hernia by means of the taxis; but, as its reduction could not be accomplished in this way, an operation for the division of the stricture was had recourse to, and was performed in the usual way at 4 A.M. on the 14th, and the protruded intestine was returned into the abdomen; but there was some difficulty in accomplishing this, owing to an adhesion between the sac and the intestine,—so firm, that the sac had to be peeled off from the intestine.

This patient did well until the afternoon of the 15th, when symptoms of peritonitis commenced, accompanied with a quick pulse, and sinking of the vital powers; and on the 16th she died.

Post-mortem examination.—There were several patches of congestion on the surface of the intestines, and they were covered by a thin layer of fresh lymph. A portion of small intestine, which had formed the contents of the rupture, was dark and congested, and was marked at the point where it had been constricted; its mucous surface was unaltered. The omentum, like that in the previous case, was closely adherent to the internal abdominal ring. It was now discovered that the hernia had not passed through the crural ring and sheath of the femoral vessels, but had made its way through an opening in the inferior column of Poupart's ligament, beneath the external abdominal ring, but above the falciform border of the saphenous opening, and in front of the femoral vessels. On the right side there was found an empty sac of an old femoral hernia, which had taken the usual course.

Chronic Synovitis of the Knee-joint, Pulpy Thickening of the Membrane, Destruction of the Cartilages, and Ulceration of the Bones.

J. S——, æt. 51, a bricklayer's labourer, says he has never had rheumatism, nor suffered any injury to his knee, and has enjoyed good health until three years ago, when he first experienced pain in his left knee. The joint afterwards swelled. The pain and swelling frequently abated for a time, and returned with varying intensity; and he was able to continue his work until two years ago, when the increase of pain and inability to walk compelled him to seek relief in a Union, where he remained some months, and has since sought a living in the streets. At length, unable to drag his leg about with him any longer, he came to St. Bartholomew's Hospital, and was admitted in August 1850, under Mr. Skey.

He was weak and emaciated. The left knee-joint was swelled to a considerable extent, and filled with fluid; the patella seemed larger than that of the opposite side, and it was separated from the condyles of the femur; the ligaments were either destroyed or extensively elongated, and allowed a free lateral motion, as well as flexion and extension: these movements could be accomplished without pain. There was considerable shortening of the limb, and a lateral partial luxation of the head of the tibia inwards.

He was ordered to keep in bed, and a long splint was applied, which fixed the leg as near as possible in the natural position. After he had been in the Hospital a fortnight, it was thought advisable to evacuate the fluid contained in the joint. A puncture was made on the inner side of the patella with a trochar, and nearly five ounces of brownish purulent fluid escaped. The joint was carefully enveloped in adhesive plaster, leaving an aperture to allow free exit to a copious discharge which followed the puncture. At the expiration of a week the matter had burrowed under the integuments in the neighbourhood of the joint, and required a fresh incision for its evacuation. The discharge continued to be copious; the patient became more debilitated, lost his appetite, his pulse was feeble, and his nights sleepless; but he did not suffer much pain.

After a short time his general condition was somewhat improved by the administration of Battley's liquor cinchonæ three times a day, and morphia at night, combined with a generous diet. The joint, however, remained nearly in the same state, so that the necessity of an amputation of the limb, which had been previously recommended, was now strongly urged upon him; but he would not consent to this proceeding, and at the end of six weeks left the Hospital.

In October he became an inmate of the Infirmary attached to St. Luke's Workhouse, where at length, worn out and emaciated by a profuse discharge from the joint, he reluctantly consented to the removal of the limb; and the operation was performed on Nov. 20th. He recovered from the operation, and soon regained strength.

Examination of the joint.—On opening the synovial membrane, which was thick, pulpy, and of a reddish-brown colour, there escaped a considerable quantity of a thin purulent fluid. The ends of the bones were entirely denuded of cartilage, and much altered in shape. The internal condyle of the femur had disappeared, and the external condyle contained some dead bone in its cancellous structure. A shallow groove in the femur received a fold of thickened synovial membrane from the posterior part of the patella. The head of the tibia was excavated into a cup-shaped cavity, with a thin irregular margin; and there was scarcely a trace of the ligaments remaining.

Correspondence.

REMOVAL OF A NEEDLE FROM AN ADULT AFTER IT HAD BEEN TWO YEARS IN THE BODY.

SIR,—I forward the following case for insertion in your journal, if you think it worth a place therein.

A lady, in the month of May, in 1827, sitting down on a chair, felt a sudden and painful sensation, as if she had sat upon a needle. She could find no trace of a needle; neither, on resuming her seat a few minutes afterwards, did she feel the same sensation. She forgot the circumstance until two years afterwards, when, on sitting down on a wooden bench, she experienced a sharp pain, as if a nail had entered the buttock. On trying to rise, she found that she could not extend the thigh without producing the most acute suffering. The effort to put the foot to the ground caused the same result. She remained some time maintaining the limb in the flexed position; but, obtaining no relief, sent for her surgeon, who detected a hard substance projecting beneath the integuments which exhibited no sign of puncture or other wound. A slight incision exposed the head of a needle. The needle being extracted, the symptoms quickly subsided. The needle was darkened, and had lost its bright polish.

I remain, &c.
W. B. KESTEVEN.

Upper Holloway, Jan. 30, 1851.

ANOMALOUS TWIN CASES.

SIR,—In your report of the last meeting of the Liverpool Medical Society, one of those anomalous twin cases, where one child is born weeks before the other, was brought before the profession, by one of its members, for discussion. The interval between the births was stated, I think, to be six weeks. A similar case was published by me in the *Lancet* of January 14, 1843, where the period between the births of twins extended to eight weeks. This recorded case, and another also, to which I at the same time alluded, of Dr. Jameson's, may be further interesting to the young obstetrician and physiologist.—I am, sir,

Yours most obediently,
JAMES THEODORICK VALE,
Surgeon to the Birkenhead Hospital.

Birkenhead, Feb. 3, 1851.

Medical Intelligence.

FEVER AT THE CAPE DE VERDE ISLANDS.

DURING the latter end of the past year, fever, ushered in by a preliminary attack of measles and hooping-cough, appeared first amongst the poor inhabitants of the town, then attacked the wealthy, spread through the country districts, and prevailed so universally and severely, that scarcely an individual escaped the malady; and out of a population of about 4,500 there were above 700 deaths in about four months. In many houses not an inhabitant remained to bury their dead; those that did not perish by disease died from starvation for the want of aid. In the midst of these calamities there arose, on the 2d of September, a frightful hurricane, which, in the course of three or four hours, swept away the whole of the crops, and completely destroyed near 400 houses; and as there is only one annual crop in these islands, the wretched inhabitants have the prospect of immediate famine staring them in the face, unless they can receive assistance in the way of provisions from other than the limited sources of their immediate neighbourhood.

THE HOSPITAL FOR CONSUMPTION, BROMPTON.

THE late Mr. Thomas Ansaldo Hewson, of Woburn Place, among other munificent bequests to public charities, has left the sum of £1,000 for the use of the Hospital for Consumption,—a most valuable boon at the present time, in addition to the efforts of the Building Extension Committee.

MEDICAL HONOURS IN FRANCE.

THE Municipal Council of Paris have ordered the name of ***Rue Larrey*** to be substituted for that of the ***Rue de Paon-saint-André***, and that the ***Rue de Touraine*** shall henceforth be named ***Rue Dupuytren***. The President of the Republic has conferred the Cross of the Legion of Honour upon M. Goupilleau for his services to the French during the invasion of cholera in Mexico.—***L'Union Médicale.***

THE LATE ROBERT THORPE, ESQ., MANCHESTER.

THIS gentleman, who had acquired great repute as a Provincial surgeon, died at his residence in Piccadilly, Manchester, in the 63rd year of his age. We publish the subjoined particulars regarding his early life and subsequent professional career:—

Mr. Thorpe was the son of Mr John Thorpe, himself an eminent surgeon, who resided in King Street for a number of years. He was educated at the Manchester Free Grammar School, when conducted by Mr. Charles Lawson; and having creditably passed through the curriculum of study then pursued there, he became a pupil with his father, and commenced that career which in future life was destined highly to distinguish him. Having passed through the usual course of instruction in London, and the ordeal of examinations, he subsequently returned to Manchester, and commenced the practice of his profession. He became connected with the Manchester Royal Infirmary in 1812, by his election on the 2nd of April in that year. We need not, in this brief memoir, refer to the very different position of that institution then and now, or to the changes which have taken place in the town since the period stated. Mr. Thorpe entered upon his office with that alacrity and energy which was always a trait in his character, and continued to perform the duties which devolved upon him with untiring assiduity until the 19th of February, 1849, when he resigned the office of surgeon. He was elected the same day one of the consulting surgeons to the institution, and held that honourable position at his death, in conjunction with his old schoolfellow and attached friend through life, Mr. J. Ainsworth. Mr. Thorpe was distinguished alike for professional skill and for private worth. In respect of the former, it is scarcely possible we can say too much. Intimately acquainted with the minutest details his own researches or those of other investigators had revealed in anatomy, possessed of a ready and most accurate perception of the condition of a diseased part, he had, further, that indispensable requisite for an operating surgeon, an iron nerve and a steadiness of manipulation never exceeded. Ever careful not to inflict unnecessary pain, once assured that nothing but an operation remained, its magnitude never appalled him, nor did its momentousness cause him to falter. This decision and strength of nerve, combined with certainty of eye and hand, rendered him most successful, and spread his fame even in London. So solid was its basis, that among his professional brethren in Manchester his word had almost the authority of law, and his decision was looked for with deference. A fact we have heard illustrates this in a striking manner:—At the Royal Infirmary, when an operation appears to be necessary, it becomes a matter for consultation among the medical staff before it is undertaken, and the decision depends upon the majority of votes recorded, commencing with the youngest member and ending with the senior. Mr. Thorpe could not always attend these consultations, and it has happened that a patient, about whose case he had not been in consultation, when arranged on the operating table, has been removed because he (Mr. Thorpe), after examination, expressed his opinion that it would be better to wait a short time. Such a fact is perhaps the strongest proof we can cite of the deference paid to his skill by his colleagues. Of course so distinguished a man could scarcely fail, during a long professional career, to be the instructor of others; and we might easily point to surgeons in Manchester who remember their pupilage under him with feelings of great pleasure, and who acquired in that position the talent which now elevates them. In private life, Mr. Thorpe was distinguished by the benevolence of his character, and by the unostentatious manner in which he distributed his ample means among those whom he believed to be requiring and deserving of aid. Little known through the medium of newspapers as a public benefactor, he was one of our most active dispensers of assistance to distress, to an extent which will never now be known. Clever and enthusiastic as he was in the pursuit of his profession, we do not hear that he published anything upon any department of medical science; and though he was possessed of literary tastes, his public appearances, as a man of letters, were very few indeed.

Selections from Journals.

DEATH FROM CHLOROFORM.

[A BRIEF notice of the following case was published in the last volume of the GAZETTE: we have since had reason to believe that a fuller translation of Dr. Aschendorf's report, in *Casper's Wochenschrift*, would enable our readers to judge how far death was attributable to the poisonous influence of chloroform.]

A child, aged *one year*, was the subject of a *Telangiectasia subcutanea!* (*Nævus*), which extended from the zygoma to the os hyoides, and from the external auditory meatus to the maxillary fossa. How deep the disease extended there were no means of ascertaining; but so extensive was its superficial aspect, and to such a size had the tumor attained, that no one had been willing to undertake its removal. In order somewhat to reduce its dimensions, Dr. Aschendorf, at three different times, inserted, deeply, six seton threads. Each operation was performed under the influence of chloroform: *six drops* were poured upon some tow in a cup; after a few inhalations the child was in a few minutes in a deep and peaceful sleep, which lasted about half an hour, and from which the patient awoke as lively as if nothing had occurred, so that its anxious mother was not in the least alarmed. The presence of the setons produced a profuse suppuration, by which the tumor was reduced one third part, and the remainder had lost its extreme turgescence. After this improvement, eleven weeks passed without further alteration or any perceptible diminution taking place: hæmorrhage also occasionally occurred. It was therefore determined to extirpate what was left of the tumor without further delay, as the child was at the time in good general health, being still nourished by a good breast of milk.

Before the operation was commenced, the little patient was placed under the influence of chloroform, in the same manner and by the employment of the same dose (*i. e.*, six drops) as on previous occasions. The child was quite unconscious of the extensive incisions. In about ten minutes it cried a little: *three drops* more of chloroform were used for inhalation, and in about eight minutes more the operation was concluded.

Dr. Aschendorf observes that his joy on the successful termination of this difficult undertaking was but of short duration; for on raising the child it laid its head on one side, convulsive twitches of the face were observed, with distortion of the eyeballs and dilatation of the pupils. For one moment the arms were stretched out stiff, then again they were relaxed, and fell as supple as the rest of the body. Death quickly followed:—only one pulsation of the heart, and a single râle with the expiration, being perceived.

The setons had been removed two days previously, as they had appeared to cause some degree of constitutional irritation. The night previously the child had slept quietly, and awoke as playful and good-humoured as usual. An hour before the operation it had sucked freely. Four arteries which bled were tied. *The quantity of blood lost was about two tablespoonfuls* (*zwei Esslöffel*). The chloroform employed on this occasion was part of the same preparation which had been frequently employed during the week before without any remarkable occurrence. The same sample of chloroform was used, four days afterwards, in the case of a man who underwent the operation of lithotomy. He was kept under its influence during an hour and a quarter by *ten drachms* (*!*) without any ill effects.—*Casper's Wochenschrift*, Sept. 6, 1850. (See our last volume, page 950.)

⁂ A high authority on the action of

chloroform has attributed the death in this case to loss of blood: we think, however, that the history, as given *in extenso* above, will serve to show that the hæmorrhage which occurred was insufficient to account for so suddenly fatal a termination. Allowing the utmost latitude to the estimated quantity of blood lost (two table-spoonfuls), it is not probable that the hæmorrhage amounted to two ounces; while, according to Dr. Aschendorf, the real amount was only equal to half that quantity. Under ordinary circumstances such a loss, taking place, as in this case, slowly, is quite inadequate to account for the rapidly fatal effects which followed. In hare-lip operations on infants much more blood has commonly been lost without subsequent injury; therefore this occurrence, with even the superaddition of the shock of the operation, will not account for death, especially as the shock was here obviated by the anæsthetic condition.

A further consideration of the symptoms recorded does not indicate death from hæmorrhage. We find no mention of syncope, or even of the appearance of faintness, before or after the tying of the arteries: the operation being completed without the manifestation of any ill results, when suddenly convulsions and death carry off the little patient! We can arrive at no other conclusion than that of Dr. Aschendorf, that the chloroform, like a lightning-stroke (mit Blitzähnlichen Schlage), paralyzed the heart's action, and thus destroyed life. χ

We subjoin a case lately published in the Dublin Medical Press, by Dr. Bagot, under the following title:—

Evil Effects following the Incautious Administration of Chloroform. By Dr. Bagot.

A few months since I was sent for, at about half-past ten P.M., to see a young lady to whom chloroform had been administered at twelve o'clock that day for neuralgic pains of the face arising from carious teeth. She was a healthy dark-complexioned woman, and had, I understood, great repugnance to the inhalation of chloroform, to which she submitted but as a last resource, after having exhausted every other available means of ridding herself of those very distressing pains. From enquiries I judged that from *a drachm and a half to two drachms* had been administered before anæsthesia had been produced. At the period of my visit, *ten hours and a half* after the administration of the chloroform, the symptoms under which she laboured were those *of coma*. She was lying on her left side perfectly unconscious of all around her, her eye-lids closed; on raising the lids, the eyeballs appeared much suffused, the pupils irregular, and scarcely acted upon by light. There was considerable congestion about her face, and her head felt hot; surface of the body and legs cold; pulse 90, thready, irregular, and intermittent. Up to seven o'clock her friends had not found much difficulty in arousing her, although she soon relapsed into the same state. Since that hour it had been much more difficult to dispel the stupor, and it was only after many endeavours that I was able to do so. When roused, however, she intelligently answered a question, but after some hesitation, as if endeavouring to collect her thoughts. She then almost immediately sank into the same comatose state, having first expressed herself to the effect that she knew she was dying. Two or three times during the day she had shown hysterical symptoms, crying when moved, and having the same thought of approaching dissolution before her mind. Her bowels (habitually confined) had not been moved for three days. The apothecary, by whom this very powerful agent had been administered, visited her more than once through the day, as also in the evening, but did not take any step towards recovering the patient from the very urgent symptoms under which she was evidently fast sinking.

The general features of my treatment consisted in the admission of fresh air, strong carbonate of ammonia to her nose, an occasional sprinkle of cold water over the face, stupes of hot water, containing an abundance of mustard, to the feet and legs. As soon as she was able to swallow, I gave her draughts of ether and aromatic spirits of ammonia; and in about two hours, when the urgent symptoms were relieved, and some reaction had set in, I administered strong tea, which seemed very grateful, and by which she was much benefited. Previously to leaving her for the night, I prescribed a draught containing one drop of croton oil, which affected her bowels in seven hours.

It is worthy of remark, that as she recovered from the effects of the chloroform, the neuralgic pains returned to her face with great violence.

At my visit next morning, she informed me that she had passed a wakeful night, and had suffered much from headache, which was confined to the right temple. This pain continuing through the day, I applied two leeches to her temple, from which she derived immediate relief, and was enabled for the first time to turn off her left side. She was much reduced in strength by this illness, and fainted at her first attempt to sit up in bed, where she was obliged to remain some days.

This case will serve to illustrate the

danger which may attend the use of this powerful agent in the hands of an inexperienced or ignorant practitioner, and should caution against the indiscriminate employment of a remedy which, used with proper precaution, may be productive of much good, but which, if administered injudiciously, may produce the most disastrous consequences.

In a discussion which followed the reading of this case, Dr. Geoghegan observed, that he conceived the production of convulsions, after the application of chloroform, merely showed that the patient was under a less amount of narcotic influence than if it had been pushed further; and that in many cases these apparently formidable symptoms had arisen from not producing the full effect of the drug. It was now well known that chloroform was impaired by keeping, and particularly by exposure to light. While, therefore, their first effort should be to obtain chloroform in its purity, they should use the additional precaution of keeping it in a dark place.

⁂ We have recently had occasion to observe, in a case where chloroform was applied locally in neuralgia, that, after its effect had gone off, the neuralgic pains returned with aggravation.

ON THE EFFECTS OF RHUS VENENATA OR POISON-SUMACH; WITH A CASE. BY THOMAS STRATTON, M.D.; SURGEON, ROYAL NAVY.

In Rees' Cyclopædia, and in the London Encyclopædia, reference is made to Kalm, Lyon, Pursch, and Martyn, who have observed various effects from some of the species of *Rhus:* from their accounts it appears that some of the species produce symptoms different in degree and somewhat in kind in different persons, while in some individuals they produce no effect.

In 1843, I was stationed at Penetanguishene, on Lake Huron, at which place there are several species of *Rhus* not uncommon, and the residents are acquainted with the occasional consequences of handling some of these.

On the 22d of November, I was requested to visit Antoine Lafreniere, a French-Canadian farmer, living two miles west from Penetanguishene; and, while driving to his house, the messenger casually told me that his son had been "poisoned" by a plant the day before. He gave me this information as a thing of no moment; and, on reaching the house, and examining into the state of the father, who had an attack of acute rheumatism, I inquired for his son, whom I found in bed.

Olivier L., aged 16, a short, stout lad, in the afternoon of the 21st of November, while ploughing in a field, came to some shrubs in the way of the plough. These he removed with his hands, on which there previously were some abrasions. In about an hour afterwards, his hands, arms, face, and legs, began to swell: this was accompanied by slight redness of the skin and by thirst; no nausea and headache.

Nov. 22d.—Great swelling of the arms, face, and legs. Some slight swelling and redness over the chest; but the trunk of the body generally is not much affected. Pulse and tongue natural. I sent some of the people in the house out to the field for the plant, which was the *Rhus venenata*, or Poison-Sumach (Eaton and Wright's *North American Botany*, 1840, *Albany*, page 392). The swelling continued to increase till the evening; taking about twenty-eight hours to reach its height.

23d.—He is still in bed. The swelling and redness are stationary.

24th.—The swelling begins to lessen, and the redness has nearly disappeared.

26th.—This morning he left his bed. The swelling and redness have disappeared.

27th.—The swelling took about twenty-eight hours to reach its height,—was about ten hours stationary, and two days declining; the attack having lasted altogether four days, during which time his appetite was the same as in health, and he kept his bed only on account of the swelling, which rendered him unable to bend his knees, or to move his legs. No external application was used, and no internal remedy was taken, except laxative medicine. It was the first time he had been attacked in this way. As at the time I visited the house daily to see his father, I had an opportunity of observing the course of Olivier's case, for which the French-Canadians here would not consider it necessary to apply to a medical man. The popular ideas regarding this complaint are, that it is not at all dangerous; that it lasts about nine days; and that frictions with sour milk are beneficial. Many of the lower French-Canadians are very ignorant and credulous, and entertain certain strange notions respecting this plant. I heard one say that he knew persons who began to swell immediately on seeing it, and others who did the same on hearing its name *(l'arbre à puce)* mentioned. In 1844, a gentleman travelling in this part of Canada was very inconveniently delayed for a week by an attack of swelling from touching the plant; while two other persons staying at the same house rubbed (as an experiment) some of the leaves over their faces and hands, without any result being produced. I understand that the Indians are occasionally affected by it in the same way as their White brethren.

In May 1844, after gathering some of

the plant, my right hand swelled very much, without redness, itching, or other symptom: this increased for about twenty-four hours, then declined for about the same time; and on the third day the swelling was gone. There was no desquamation. The left hand was not affected. After a few days I rubbed these leaves over my hands without any effect.

In this complaint the appearance of the swelling is very sudden, and its increase very rapid; and, when situated in the face and scalp, it produces considerable discomfort. As this would likely create anxiety in the minds of those who did not suspect its cause, I hope that, to travellers in those parts, this short notice may be of service in preventing unnecessary alarm.—*Edinburgh Medical and Surgical Journal.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

On the Action of the Muscular Coat of the Bronchial Tubes. By C. R. Hall, M.D. M.R.C.S.E.

On a Remarkable Effect of Cross-Breeding. By Alexander Harvey, M.D.

Medical Report to the Managers of the Aberdeen Lunatic Asylum. 1850.

The Dublin Quarterly Journal of Medical Science. No. 21, February 1851.

The Stethoscope and Virginia Medical Gazette. No. 1, January 1851.

The Boston (U.S.) Medical and Surgical Journal. Monthly Series, Jan. 1, 1851.

London Journal of Medicine. Feb. 1851.

Casper's Wochenschrift der ges. Heilkunde. Nos. 51, 52, and No. 1, 21st December to January 4th.

Religion and Science. Their Dependence on each other. By a Physician.

Letters on the Laws of Man's Nature and Development. By Henry G. Atkinson, F.G.S.; and Harriet Martineau.

London University Calendar. 1851.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·49
„ „ „ Thermometer[a]	41·1
Self-registering do.[b] .... Max. 55·	Min. 30·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, ·75.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3° *above* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, **Feb. 1.**

Births.		Deaths.	
Males....	773	Males....	537
Females..	764	Females..	504
	1537		104

Causes of Death.

All Causes	1041
Specified Causes	1039
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	280
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	41
2. Brain, Spinal Marrow, Nerves, and Senses	118
4. Heart and Bloodvessels..........	42
5. Lungs and organs of Respiration	206
6. Stomach, Liver, &c.	46
7. Diseases of the Kidneys, &c.	9
8. Childbirth, Diseases of Uterus, &c.	6
9. Rheumatism, Diseases of Bones, Joints, &c.	6
10. Skin..........................	3
11. Premature Birth	0
12. Old Age	49
13. Sudden Deaths..................	9
14. Violence, Privation, Cold, &c....	15

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	20	Convulsions........	35
Measles............	30	Bronchitis	92
Scarlatina	16	Pneumonia	76
Hooping-cough	51	Phthisis	153
Diarrhœa..........	25	Lungs	11
Cholera............	0	Teething	7
Typhus............	48	Stomach	2
Dropsy	14	Liver.............	11
Hydrocephalus	32		
Apoplexy	29	Childbirth	4
Paralysis	12	Uterus	2

Remarks.—The total number of deaths was 18 *below* the average mortality of the 5th week of *ten* previous years.

NOTICES TO CORRESPONDENTS.

Mr. Herbert Williams.—We will endeavour to find room for an abstract of the Report next week. It reached us too late for publication in the present number.

Mr. C. S. Bate.—The large engraving is not yet ready; hence the paper will be reserved for the following number.

We have referred Dr. Wright's letter to the gentleman who wrote the review. We have no doubt that the matter will be satisfactorily explained.

The pretended quotation from the Medical Gazette by a peripatetic aurist, calling himself Dr. Bennett, is a forgery.

Mr. B. W. Richardson will perceive that the correction has been made.

Mr. Swan's paper has been received, and will be inserted in an early number.

The communication of Dr. Fearnside is postponed until next week.

Corrigenda in our last number:—

In Dr. Ogston's paper.—P. 182, col. 1, line 7 from foot, for "appearance," read "precipitate."—P. 183, col. 2, lines 25-6, for "been profollowed by," read "having followed the ingestion of."—P. 184, col. 2, line 7 from foot, for "conspiracy," read "conspiring."—P. 185, col. 1, line 38, for "severity," read "course."

In Dr. Barclay's.—In the foot-note, at page 193, the in-patients under 1849 should be 3506: the total in-patients of four years, 14345; and the annual average admissions, 3586.

speaking; he replied to questions reluctantly and in monosyllables, and for some weeks he had shown much drowsiness, and slept heavily. About a fortnight before he came under my notice, he sustained a slight injury to his face, which gave rise to considerable inflammation, for the relief of which active purgatives were given. In a day or two afterwards he began to complain of a sensation of coldness, pain in the back, limbs, and head, and his appetite failed.

When I saw him, he had the aspect of a person who had long suffered from bad health, being much emaciated. There was no œdema of any part of the body. His intelligence was rather slow than obtuse; his countenance was heavy, his face and lips pale: he complained of great prostration of strength, headache, and pain in the limbs: his sleep was broken, and disturbed by dreams: his tongue was covered with a moist, creamy fur: he had occasional sickness, almost complete anorexia, and his bowels were confined. He had no pain about the chest, no cough nor dyspnœa: his pulse was 90, regular, and of only moderate fulness and strength: his chest expanded well, and the breath- and pulmonary stroke-sounds were healthy; but the cardiac dulness on percussion extended over a larger surface than natural; and this was more prominent than the corresponding part upon the opposite side of the chest. The impulse of the heart was somewhat strong, and a faint thrill was communicated to the hand; over its base the heart's sounds were not perfectly healthy, the first being somewhat murmurish: over its apex a rough, irregular, creaking, double-friction sound, was heard, which, in passing to the right and left of this point, became single and gradually inaudible. There was no marked heat of skin, nor thirst. He was not confined to bed, but, on the contrary, sat up during the whole day. His urine was abundant, pale, acid; sp. gr. 1010; and on one occasion only was it found to be slightly albuminous.

Treatment and progress of the Case.—As it was evident that the cardiac disease was of some duration, and his enfeebled state forbad the idea of depletion being entertained, the treatment consisted in the repeated application of blisters over the region of the heart, and the careful employment of mercury; whilst it was attempted to sustain his strength by light and nourishing food, of which, however, he could take but little. On being repeatedly interrogated, he sometimes admitted that he felt pain about the lower part of the ensiform cartilage and between the shoulders, and he had occasional palpitation of the heart. He had never any cough, and little, if any, dyspnœa: his pulse ranged from 90 to 120; it became small and feeble, but remained regular: his urine was constantly pale, and of low specific gravity. He was never brought under the influence of mercury; for, after its exhibition for a few days, an attack of dysentery compelled its withdrawal, and the simultaneous complete failure of any disposition to take food left him in such an exhausted condition that he died in a state of imperfect coma about twelve days after the commencement of the treatment. He was not confined to bed until the last few days of his life. About a week before his death, numerous purpuric spots appeared upon his arms and legs. The friction sound remained audible until three days before death. He never had delirium, or any other cerebral symptoms but those above mentioned.

Examination of the Body forty-eight hours after death.

There was a high degree of emaciation. The *head* was not examined.

Chest.—There were some slight old adhesions of the left pulmonary and parietal pleuræ: there was no effusion into the pleural sacs. The lungs were somewhat congested, inferiorly and posteriorly, but were otherwise perfectly healthy. The heart was larger than natural, weighing ten ounces. Over its base and the greater part of both its anterior and posterior surfaces, the pericardium was adherent by means of a thick layer of tolerably firm lymph: the connections, however, were broken down without much difficulty, and the opposed surfaces were left covered with irregular masses of red exudation-matter, in some places a third to half an inch in thickness. Near the apex were some flakes of softer lymph; and between the unadherent portions was contained about an ounce of bloody serum. The walls of the heart were rather soft, and of dark red colour; but near the base, on the posterior aspect, there was a spot of the size of a shilling, where they were thin, and of a pale buff colour, during a period immediately anterior to the delivery of his Gulstonian Lectures in 1837.[*]

Of 136 cases of acute rheumatism, under the care of Dr. Latham in St. Bartholomew's Hospital, between the years 1836 and 1840, the pericardium was affected in eighteen.[†]

In forty-three cases, of which accurate notes were preserved by Dr. W. Budd, there were five instances of the occurrence of pericarditis.[‡]

Of seventy five cases of acute or subacute rheumatism treated by Dr. Taylor in University College Hospital, six had acute pericarditis of considerable severity,—two in a slight degree, and in two its existence was doubtful.[§]

Thus the proportion in which the external serous investment of the heart has been remarked by various English observers to become implicated in acute rheumatism, varies from one in five to one in nine cases. The ratio in which affections of the heart *of all kinds* are met with is, of course, much greater. Thus Dr. Taylor found some disease of the heart to exist in one-half of his cases; Dr. W. Budd in four-sevenths; and Dr. C. J. B. Williams in three-fourths, of the cases of rheumatism examined by him. Much difficulty arises, however, in estimating the proportion of cases of endocarditis, from the circumstance that the diagnosis of the disease has been practically founded upon the presence or absence of a valvular murmur. The insufficiency of this criterion is shown by the fact, that of 1026 patients taken indiscriminately from those admitted for all diseases into University College Hospital, Dr. Taylor found a cardiac murmur to exist in 413, or 37 per cent.[‖]

Two of the cases referred to above arose from extension of inflammation from an adjoining texture. This is an important cause of pericarditis. Of twenty cases of old adhesions of the pericardium, analysed by Dr. Taylor in the paper referred to, pleurisy appeared to have been the cause of the disease in five, and possibly in seven, instances. Of eleven cases of pericarditis recorded by Morgagni,[*] seven are examples of the complication of the disease with pleurisy or pneumonia, single or double.

In one case the only assignable cause of the disease was the existence of that state of the system present in Bright's disease of the kidney; and in two others this cause was associated with rheumatism, slight in one case, acute and severe in the third. The merit of discovering the fact of the tendency of this form of renal disease to light up pericarditis, as well as other inflammations, belongs to Dr. Taylor, in whose admirable essay is contained a mass of information upon the subjects cursorily passed over in this paper. Of thirty-one cases of pericarditis which fell under his personal observation, nine were certainly complicated with Bright's disease of the kidney.

Two of the last group of cases, presenting several features of interest, will be detailed at length, and made the subject of special comment.

Gradual failure of the health—Emaciation—Anæmia—Torpor and lethargy—Absence of local symptoms—Evidence of pericarditis and disease of the kidneys—Purpura—Dysentery—Death by coma—Morbid appearances—Adhesions of opposite surfaces of pericardium by means of lymph, both old and recent—Slight pericardial hæmorrhage—Enlargement of the Kidneys—Deposit of new matter in their cortical substance.

J. C., a young man, aged twenty-one years, came under treatment in the autumn of 1848. He was of middle stature, slight conformation, leucophlegmatic temperament, and a weaver by occupation. He had undergone the usual vicissitudes of his class, being sometimes in full employment and faring well; at others, being out of work and barely able to procure the necessaries of life. His habits were of average moderation and regularity. His friends had noticed for several months that his health appeared to be failing; he became paler and thinner than he had formerly been, and his disposition underwent a change; an aversion to exertion of every kind took possession of him, and gradually increased, until he fell into a state of torpor. In this condition he would sit for hours without speaking; he replied to questions reluctantly and in monosyllables, and for some weeks he had shown much drowsiness, and slept heavily. About a fortnight before he came under my notice, he sustained a slight injury to his face, which gave rise to considerable inflammation, for the relief of which active purgatives were given. In a day or two afterwards he began to complain of a sensation of coldness, pain in the back, limbs, and head, and his appetite failed.

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[*] MEDICAL GAZETTE, Dec. 1837, p. 361.

[†] Lectures on Subjects connected with Clinical Medicine, vol. i. p. 143.

[‡] Library of Medicine, vol. v. p. 196.

[§] Med. Chir. Trans. vol. xxviii., p. 463.

[‖] Op. cit. p. 495.

[*] Morgagni, De Sed. et Nat. Morb. Epist. 16, 20, 22, 24, 26.

When I saw him, he had the aspect of a person who had long suffered from bad health, being much emaciated. There was no œdema of any part of the body. His intelligence was rather slow than obtuse; his countenance was heavy, his face and lips pale: he complained of great prostration of strength, headache, and pain in the limbs: his sleep was broken, and disturbed by dreams: his tongue was covered with a moist, creamy fur: he had occasional sickness, almost complete anorexia, and his bowels were confined. He had no pain about the chest, no cough nor dyspnœa: his pulse was 90, regular, and of only moderate fulness and strength: his chest expanded well, and the breath- and pulmonary stroke-sounds were healthy; but the cardiac dulness on percussion extended over a larger surface than natural; and this was more prominent than the corresponding part upon the opposite side of the chest. The impulse of the heart was somewhat strong, and a faint thrill was communicated to the hand; over its base the heart's sounds were not perfectly healthy, the first being somewhat murmurish: over its apex a rough, irregular, creaking, double-friction sound, was heard, which, in passing to the right and left of this point, became single and gradually inaudible. There was no marked heat of skin, nor thirst. He was not confined to bed, but, on the contrary, sat up during the whole day. His urine was abundant, pale, acid; sp. gr. 1010; and on one occasion only was it found to be slightly albuminous.

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Abdomen.—The kidneys were slightly above the normal size; firmer than natural: the cortical part was pale, and the distinction between it and the medullary portions less strongly marked than usual.

Development of slight rheumatism in a delicate girl after imperfect health of some continuance—Manifestation of cardiac affection—Signs of pericarditis and valvular disease, with great enlargement of the heart—Œdema of extremities—No evidence of kidney disease—Sudden death—Morbid appearances—Deposit of lymph, both old and recent, in the pericardium—Hypertrophy of the left ventricle—Thickening of endocardium and granular deposit upon both aortic and mitral valves—Congestion and enlargement of liver—Enlargement and induration of kidneys.

E. B., a tall, delicate-looking girl, aged sixteen years, was first seen by me in the spring of 1850. Born and brought up in a country district, she always enjoyed good, but not robust, health, until the commencement of her present illness. Her father died in middle life, after suffering long from cough and shortness of breath: her mother was still living and healthy. The catamenia first appeared about fifteen months previously, and returned regularly for a year. She had been in service for a short time, in a situation where her work was by no means heavy; but about twelve months before the time of my seeing her, she obtained employment in a cotton-factory: here she remained eight months, during which her health progressively declined, and at the end of which she began to suffer from pain in the feet, ankles, and knees, which at length compelled her to give up her occupation, as she became unable to stand. She then went to the sea-side, where she spent several weeks; and whilst there, she was first sensible of the existence of a degree of shortness of breath and increased action of the heart. On her return home, she began to suffer from pain in the shoulders and hands, which became red and swollen: on any exertion, her breathing was embarrassed, and she had occasional attacks of palpitation of the heart. When I first saw her, the rheumatism had subsided, but there was considerable œdema of the lower extremities. Her countenance was expressive of much anxiety; her lips were pale, but her cheeks of purple hue. She complained of weakness, but was able to remain out of bed during the whole day. When in a state of quietude she enjoyed a tolerable amount of comfort; but on being the subject of motion or excitement of any kind, she had paroxysms of dyspnœa and palpitation of the heart, which left her in a very exhausted condition. She had some cough, and expectorated a small quantity of semi-transparent watery mucus. On examination of the chest, a muco-crepitant rhonchus was heard over the lower part of the lungs, inferiorly and posteriorly, but it was not accompanied by any dulness on percussion, nor was the breath-sound elsewhere or otherwise modified. The cardiac region appeared more prominent than natural, and a purring tremor was felt on the application of the hand. The heart's impulse was sharp and forcible, raising the anterior walls of the chest for a considerable extent during a fit of palpitation. A dull sound on percussion was noticed from the upper border of the third rib to the inferior margin of the chest vertically, and from the right of the sternum to the left of the mamma transversely. On auscultation, a soft to-and-fro sound, of the rubbing type, was heard over the whole of the cardiac region with more or less distinctness, perhaps most loudly over the base of the heart: the natural sounds were nowhere heard. Over the base, also, a soft, double, blowing murmur, was heard, which continued audible at the top of the sternum. The pulse was small, rather jerking, generally very rapid, averaging 120 to 140 beats per minute. The tongue was moist and somewhat coated; the appetite moderately good; the bowels generally confined; the urine scanty, acid, sp. gr. 1030, with a copious deposit of the lithates, and not albuminous.

Treatment and progress of the case.—As in the former case, the patient's condition did not warrant the employment of active means; but recourse was had to the repeated application of small relays of leeches, followed by blisters. A mercurial preparation was administered at bed-time; and a draught, containing nitrate of potash and tincture of digitalis, was taken two or three times during the day; whilst the strength was maintained by a light, nutritious diet. For a short time this plan of treatment appeared to be attended with more success than might have been anticipated: the heart's action became more tranquil, the breathing less hurried, and the anasarca subsided. The morbid cardiac sounds remained, however, to the last period at which they were investigated, the same as when the patient first came under notice. After being under my observation for about a month or six weeks, she expired suddenly one morning immediately after going down stairs, and without having made any previous complaint of increased indisposition.

Examination of the body.—There was some but not a striking amount of emaciation present.

The *head* was not examined.

Chest.—There were several old adhesions between the pulmonary and parietal pleuræ on both sides of the chest, and each pleural sac contained 4 or 6 oz. of clear serum. The lungs were pale and spongy superiorly; dark-coloured and gorged with serum inferiorly. The cellular tissue of the anterior mediastinum presented an unusual degree of vascularity. The pericardium was much thickened, and contained about 2 oz. of somewhat turbid serum; its opposite surfaces were adherent in several situations over the base of the heart; elsewhere they were covered with small, mamillary, projecting processes of tolerably firm lymph, each being two or three lines in length, and observing a very regular arrangement, being mostly distributed in a longitudinally linear direction: they were present on both the anterior and posterior surfaces of the heart: where they did not exist, the pericardium was thickened by the deposit upon it of lymph in the form of laminæ, in some situations to the extent of three or four lines, and it was everywhere devoid of its usual polish and transparency. The heart itself was much enlarged, weighing 17 oz. The walls of the left ventricle were about nine lines in thickness, and its cavity was dilated. On being tested, the aortic valves allowed free regurgitation into the ventricle. The endocardium in the neighbourhood of both sets of valves was opaque and thickened. The mitral valves were also thickened, and presented along their margins a uniform fringe of fine clustered granules of lymph, of the size of millet seeds. The aortic valves were also covered upon their internal surface and free margins with similar granules. The right auricle was capacious, but all the valves on the right side of the heart were healthy. Both auricles and ventricles were distended with coagula of black blood.

Abdomen.—The liver was much larger than natural: it was gorged with dark blood, which exuded copiously on incising the organ. The congestion extended to both portal and hepatic systems of vessels; the inter-lobular spaces were wider than natural, and appeared to be occupied by a deposit of new matter.

The spleen was rather large, and almost divided by fissures into three or four parts.

Both kidneys were enlarged; the increase of size being chiefly in length, so that they had a singularly elongated form: in texture they were very firm; in colour rather dark externally, where the venous polygons were very apparent: the cortical substance had an obscurely granular aspect, and was evidently the seat of some adventitious deposit.

REMARKS.—1. The most remarkable feature in the cases narrated above is the latency with which the pericarditis must have advanced. In both it existed in a high degree, but in one it occasioned no local uneasiness, and its presence was revealed by the physical signs alone; and, in the second case, it was not until the heart had become so damaged as to be unequal to its office, that the patient's sufferings compelled her to apply for medical assistance.

Modern pathologists are well acquainted with the fact, first noticed by Hoffmann and Baglivi, that inflammation may exist unaccompanied by either local or general symptoms. The circumstances under which it presents itself in this covert form are various, but have been supposed to consist chiefly in a languid and feeble state of the constitution, and a defective condition of the nervous sensibility: it is also probable that something must be attributed to the kind and character of the inflammation itself.

That pericarditis affords a not unfrequent confirmation of this statement has been remarked by several writers upon the disease; and by none has this been more strongly stated than by Andral, who says:—"Mais souvent aussi elle peut exister sans produire ni ces symptômes, ni aucun autre; de telle sorte que pendant la vie rien ne porte à soupçonner l'existence d'une affection du cœur ou des ses dépendances, et que ce n'est qu'après la mort qu'on reconnâit cétte affection."*

2. The subject of the first report had given evidence of declining health for some time before his death. The change in his disposition, the gradually increasing torpor, the paleness and emaciation, were doubtless owing to failure in the assimilative process, and the formation of blood of unhealthy quality, with the consequent change in the structure of the excreting organs, and of the kidneys in particular, the imperfect action of which again reacted upon the constitution of the blood, and added to its impurity.

The altered character of the blood was still further displayed, as the disease advanced, by the occurrence of numerous large purpuric spots upon various parts of the body.

3. Almost the only indication of the nature of the primary and constitutional disease was afforded by the state of the urine, which was abundant, pale in colour, and of low specific gravity. Although several times tested, on one occasion only was it found to be albuminous. No œdema of any part of the body was present. The case thus confirms an observation which has been made by others, that considerable disease of the kidneys may exist without either dropsy or a serous condition of the urine.

4. The existence of pericarditis was revealed by the physical signs; and, as before remarked, by those alone. Previously to the discovery of the attrition sounds in pericarditis, great importance was attached by writers to the state of the pulse, and the action of the heart, as diagnostic of the disease. The pulse was often described as being small, fugitive, indistinct, and intermittent; the action of the heart was stated to be frequent, tumultuous, and irregular, both in force and frequency. In the case under review the pulse was invariably regular, and of no remarkable frequency until a short time before death. It appears probable that the state of the pulse is mainly influenced by the amount of liquid effusion. Thus it is stated by Dr. Watson, in his excellent Lectures, that the pulse will be feeble, and more disposed to falter, and to become irregular, as the liquid effusion is large; but when the solid products of inflammation predominate—when there is coagulable lymph and but little serum—when the pericardium, instead of being distended, becomes attached to the heart—then the pulse will retain that form and regularity with which the disease commenced.

Throughout the course of the complaint a remarkable degree of drowsiness existed. A tendency to coma is so frequently observed in the course of Bright's disease of the kidneys, that it is considered one of its recognised terminations. It has been generally ascribed to the circulation of urea and other effete matters in the blood.

5. The post-mortem examination of the body disclosed the existence of both old and recent pericarditis, with some enlargement of the heart, and signs of former endocarditis. It is probable that the hypertrophy of the organ was occasioned by the first attack of inflammation of its serous membranes, and this may have taken place some months before death. The recent inflammation of the pericardium had been of an hæmorrhagic character; thus confirming an observation made by Dr. Carswell, that this form of disease is rarely seen except when a recent supervenes upon an old attack. The kidneys presented one of the forms of Bright's disease of that organ: they were somewhat increased in size, and firmer than natural, from the deposit in their texture of new matter, apparently of an albuminous or oleo-albuminous nature.

The causes of the disease seem to have been almost, if not altogether, of the predisposing or constitutional class, as no obvious exciting cause could be detected. Being of strumous habit, there existed in the patient a strong tendency to impaired nutrition, which his past life was well calculated to strengthen; for sudden and violent changes in the mode of living are scarcely less prejudicial than the continued use of an insufficient diet. The attention of the profession has been especially directed by some late writers —amongst whom may be mentioned Chomel and Taylor—to the importance of considering more fully the internal or predisposing causes of disease: and it must be admitted that, in such cases as the present, what chiefly engages our notice is, in all probability, but the more striking manifestation of changes which have been long in progress, and results which have been slowly accumulating.

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* Clinique Médicale, t. iii. p. 41.

6. The second case was of more complex nature, both renal and rheumatic disease existing; but the pericarditis was equally latent. Probably, in consequence of the double causative agency in operation, the structural changes in the heart were more considerable than in the first case.

The physical signs were conclusive as to the existence of pericardial inflammation, and also disease of the aortic valves: the only point upon which a doubt could be entertained was with reference to the cause of the extended dulness on percussion over the region of the heart. Was this owing to liquid effusion in the pericardium, or to increased volume of the heart? The presence of pericarditis being admitted, the first supposition appeared the more probable, as the occurrence of a friction-sound by no means precludes the possibility of the existence of a considerable quantity of fluid in the pericardial sac. But this view was opposed by the following considerations;—(*a*) If produced by liquid in the pericardium, the heart's impulse would have been more feeble and distant than was the case; (*b*) although the dulness rose upwards to a greater height than natural, it extended much more to the left than in the normal state, which is the character of hypertrophy of the left ventricle; and moreover (*c*), no undulatory movement was ever observed. There were signs, in addition, of congestion of the lungs: but of the renal disease there was no evidence: the urine, when examined, presented the rheumatic character; and the dropsy, both by its situation and amount, was referable to the state of the heart. The pulse constantly maintained a very high frequency, although digitalis was administered for a time being never below 120, and often risin to 140 beats per minute. The occurrence of this state of the pulse in chronic pericarditis has been especially noticed by Andral.*

7. The examination after death showed that, as in the previous case, both old and recent pericarditis had existed; to the former of which, and to the inflammation of the endocardium, the great hypertrophy of the left ventricle must be ascribed. The products of disease were found also in the liver and kidneys, an adventitious deposit being present in them. The general implication of these organs was probably owing to one common cause—an unnatural condition of the blood, arising from imperfect assimilation: and it would appear that it is in such and similar states of the system that these covert inflammations are peculiarly apt to manifest themselves. That view of the process of inflammation seems most tenable which regards it as a modified nutrition; the several tissues and organs being supplied with a reproductive fluid not adapted to their requirements, give evidence of it by erroneous growth. Both the vital and physical properties of the blood-vessels undergo a change, and permit the exudation of plastic matter of various endowments. In proportion as the nutritive material is less adapted for the healthy reparation of the parts through which it passes, so will be the tendency to increased or irregular circulation. Hence it is probable that the state of the blood, in the class of diseases under consideration, is peculiarly ill-suited for the healthy nutrition of the serous membranes of the heart, as appears from the frequency with which they become diseased.

These considerations may assist us in understanding how it is that in one case severe pain and great distress are produced by the existence of disease in the heart or its membranes, and in another little or no suffering is experienced for a considerable length of time. In examples of the latter description the changes are slowly and gradually produced; often occur in subjects the volume of whose circulating fluids has been reduced, whilst the nervous sensibility has lost somewhat of its acuteness, in consequence of the malnutrition of the organs upon which it depends.

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* Clinique Médicale, t. iii. p. 40.

8. As in the former case, the constitutional causes of the disease seem to have been most influential in bringing on the attack, which was slowly developed, and preceded by a long course of imperfect health.

9. But little need be said respecting the treatment of these cases. The indications in both were the same—to subdue the inflammation, promote the absorption of the matter exuded, and to maintain the patient's strength. A disease of long continuance cannot be met by heroic remedies; changes of structure are produced against which the powers of medicine are often in a great degree, if not entirely, impotent. All that can fairly be attempted is, whilst cautiously pursuing the curative indications, to endeavour especially to maintain the constitutional powers, which may eventually place the system in some degree of harmony with lesions which must be permanent. But when an organ like the heart has been seriously injured, and this is accompanied by a damaged condition of the great excreting organs, the treatment must be more hygienic than medical, and consist in ensuring as much tranquillity and repose as possible, and avoiding all modes of living likely to tax the already enfeebled depurating powers.

REMARKS ON THE

ANATOMY OF THE KNEE-JOINT.

By Holmes Coote, F.R.C.S.,

Demonstrator of Anatomy at St. Bartholomew's Hospital, and late President of the Abernethian Society.

(Read before the Abernethian Society, November 7th, 1850.)

The thigh, which may be freely flexed upon the pelvis, as in the act of raising the knee, cannot be extended backwards beyond a perpendicular line drawn from the acetabulum through the long axis of the inferior extremity. The leg, on the other hand, cannot be extended beyond a similar line, but may be flexed to almost any extent upon the thigh. The movements in the one joint are precisely the opposite to those in the other. In the upright position the bones composing the knee-joint are held by the ligaments, as well as by the muscles, immoveably fixed, so that the limb may constitute a firm column of support to the weight of the trunk; but in the semiflexed position the tibia is capable of rotating to a limited extent upon the articulating extremity of the femur.

The number, direction, and points of attachment of the ligaments of the knee-joint have a direct relation to these three points: namely, the freedom of flexion; the firmness of the whole limb in its extended position; and the power of rotation, to a limited extent, when the leg is bent upon the thigh.

Flexion.—The prominent and horizontally elongated condyles of the femur have their articulating surfaces continued backwards to the shaft of the bone, that the shallow head of the tibia may freely move in the common flexion of the leg, as in the act of walking, running, &c. Most persons, and indeed all by practice, can, with a slight effort and with the assistance of the hand, make the extremity of the os calcis, or the heel, touch the buttock opposite the tuberosity of the ischium. If, in the dead subject, the mechanical obstruction offered to extreme flexion by the muscles of the calf of the leg, and by the hamstring muscles, be removed, the approximation of the heel and buttock is the more easy. It is therefore irrational to talk of any ligaments being concerned in checking a movement which the mechanical construction of the joint allows in its freest range. The only tension observed is in the fold of synovial membrane, and in a few stray ligamentous fibres, covering the anterior surface of the crucial ligaments; but the resistance thus offered is inconsiderable, and may be overcome without damage to the ligamentous structures of the knee.

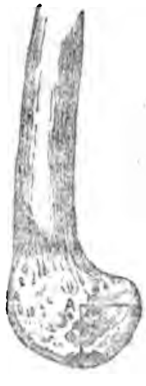
Extension.—The leg cannot be extended beyond a straight line drawn perpendicularly through the long axis of the inferior extremity. In complete extension all the ligaments are tense; and an attempt to force the leg beyond this line would rupture, first, the ligamentum posticum Winslowii; secondly, the two lateral ligaments; and thirdly, the two crucial ligaments. In the living subject the resistance offered by the flexor muscles of the leg inserted into the upper extremity of the tibia and the fibula must also be overcome. It is for the purpose of limiting extension that the semi-membranosus muscle sends a strong tendinous prolongation upwards from its tendon of insertion into the external condyle of the femur. The two lateral ligaments for the same purpose extend obliquely backwards, as well as downwards, from their respective origins to the heads of the tibia and fibula: from the shape of the condyles of the femur, extension separates more widely their fixed points, and thus renders them more tense. This remark refers especially to the external lateral ligament.

When the leg is semiflexed it may be rotated to a limited extent both inwards and outwards. In this position the internal lateral ligament is nearly as tense as in the extended state of the joint; the shape of the internal condyle being such, that flexion does not cause any considerable approximation of its fixed points. Indeed, there is one position in which the ligament is rather stretched than otherwise, and the surfaces of the tibia and femur are pressed together more firmly than in others.

The external lateral ligament is relaxed.—In flexion, the fixed points of this ligament are approximated nearly a quarter of an inch. The external condyle of the femur is so shaped, that a line drawn from the point of attachment of the external lateral ligament to the surface of the bone measures more if drawn directly downwards in the line of the axis of the former, than if drawn at right angles to this line, from the same point in the direction backwards.

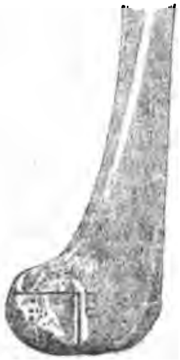
My friend Mr. Ingram has kindly measured several bones, to ascertain, at my request, the accuracy of this point, and the accompanying drawing illustrates the result of his examinations. Let it be understood, therefore, that the shape of the condyles has a direct influence upon the state of tension of the lateral ligaments. The circumference of the internal condyle of the femur is part of a circle; the point of attachment of the internal lateral ligament being in its centre: flexion influences, in a scarcely perceptible manner, the state of tension of the ligament. The external condyle of the femur is of elongated form: the external lateral ligament is attached much further back than the internal, and flexion brings its fixed point nearer the surface of the joint.

Internal condyle.



A. Attachment of internal lateral ligament.

External Condyle.



B. Attachment of external lateral ligament.

Therefore, in flexion, the internal articulating surface of the tibia, and the internal condyle of the femur, being held together, form a sort of pivot, around which the external articulating surface of the tibia moves in rotation.

The internal interarticular fibro-cartilage is of semilunar form. It is attached to the head of the tibia by its two widely separated extremities, and to the internal lateral ligament at the mid-point of its circumference. It is, therefore, immoveable, and it corresponds with the other conditions of the inner half of the knee.

The external interarticular fibro-cartilage is circular, and attached to the bone only at that point where the two extremities meet. A pouch of synovial membrane intervenes between it and the external lateral ligament. It freely follows the external condyle of the femur in the movement of rotation.

The accident known as dislocation of the semilunar cartilage affects the external, and not the internal cartilage, as has been erroneously supposed.

The crucial ligaments have for their office the limitation of the rotatory movement. Rotate the foot outwards, the posterior crucial ligament is tense; rotate the foot inwards, the anterior crucial ligament is tense: but in this latter position both ligaments are tense, in consequence of their crossing in the middle of the joint.

The posterior crucial ligament is intimately connected at its tibial insertion with the posterior cornu of the moveable external semilunar cartilage, which requires to be held under the extremity of the femur. The anterior crucial ligament is not so intimately connected to either of the semilunar cartilages: its attachment is chiefly to the bone. A small transverse band connects the anterior parts of both these semilunar cartilages.

There are many muscles which rotate leg and foot inwards: all those muscles inserted into the inner surface of the head of the tibia, but more especially the semi-membranosus and the popliteus.

The muscles which rotate the leg and foot outwards are the biceps flexor cruris, which is inserted into the extremity of the fibula (the homotype of the olecranon), and the tensor vaginæ femoris, which is continued from the crista of the ileum downwards, by means of a strong fascia, to the head of the tibia. Dr. Palasciano, of Genoa, was the first, I believe, to point out the proper functions of the tensor vaginæ femoris. Let any one semiflex the leg, and then rotate the foot outwards, he will feel the strong ligamentous band on the outer part of the thigh, usually described as part of the fascia lata, become tense and relaxed with the movements of the limb. Dr. Palasciano justly remarks, that a dense fascia is not stretched over that part of a limb where the muscles are most powerful, otherwise it would be strong where it covers the adductors on the inner side of the thigh, and thin on the outer side of the limb, which is occupied only by the vastus externus muscle. He might have added to his description of the muscle, that it is part of the gluteus maximus, as it arises from the crista of the ileum over the gluteus medius, and is inserted into the anterior margin of that dense band of fascia which receives the greater part of the gluteus maximus. It is supplied also by nerves from the sacral plexus. The gluteus maximus pulls the pelvis backwards, and assists in the maintenance of the erect posture: the tensor vaginæ femoris rotates the leg when semiflexed; but, if both muscles act in concert, they pull upon a strong ligamentous stay, which binds the pelvis to the head of the tibia.

But little attention has been paid by anatomists to the mechanism for the rotation of the tibia upon the femur; and yet it is exclusively for this movement that, in place of the hinge-shaped joint instanced in the elbow, we find the flat broad surface of the articulating extremity of the tibia applied to the condyles of the femur.

Liability to displacement is overcome by an assemblage of ligaments, which, when examined in minutest detail, show in their great variety of form and attachments, the most perfect adaptation to the office which they have to perform.

REMARKS UPON

THE FUNGUS EXISTING IN FAVUS.

By J. W. Griffith, M.D., F.L.S.,
Member of the Royal College of Physicians, and Physician to the Finsbury Dispensary.

The perusal of the very interesting account of the occurrence of the fungus in the pustules or capsules of favus (Porrigo Lupinosa et Scutulata of Willan) by Dr. Bennett, in the Edinburgh Journal of Medical Science for July 1850, has induced me to make a few observations upon some points in connection with this subject, especially in relation to the explanation of one or two of the doubts which have been thown upon it.

These forms of disease appear, from Dr. Bennett's report, to be by no means uncommon in Edinburgh. The same view seems to be generally entertained regarding their prevalence in this metropolis: but the presence, or even the existence, of the fungus is for the most part denied by authors whose observations have been made here. Judging from my own experience, true favus is not so common in London as is generally thought. It not infrequently happens that we find two or three articulations of a fungus in the crusts of impetiginous eruptions of the scalp and other parts of the body: but these are considerably larger than those found in favus; and their number bears no proportion to that in the true disease. I have always regarded them as arising either from the growth of some joints of yeast derived from the bread used in the bread-and-water poultices which are so frequently applied for the removal of the crusts, or as having been derived from the air. To the accuracy of the description given by Dr. Bennett of the true fungus, I can bear testimony, both from the examination of specimens which I have found myself, and from some of Dr. Bennett's, which were kindly obtained for me by my friend Mr. Acton. The view which I cannot avoid taking of the denial of the occurrence or existence of the fungus is, either that the true disease has not been investigated in these cases, or that the pustular elements have been submitted to microscopic examination instead of the capsular. It appears to me quite impossible that either the sporules or the articulations of the fungus can for an instant be mistaken for particles of epithelium, or anything else, by any one at all accustomed to the microscopic examinations of the lower forms of vegetation. I have mentioned the comparative rarity of the true disease to one or two others who have investigated the point, and their results have coincided with my own.

The striking general resemblance of the fungi of favus to those which grow spontaneously in diabetic urine, and constitute yeast, excepting their size, induced me to examine the crusts as to the presence of sugar, thinking this might throw some light upon the disease, and might explain its origin *de novo*. The results, however, were negative, as regards the presence of this substance.

The objection raised as to the probability of the above-mentioned fungi and spores being truly such, on account of their simultaneous power of reproduction by division and the formation of spores, is certainly of no weight. We find this occurrence existing undoubtedly in the vegetable kingdom: it is probably well known, although not distinctly expressed as a physiological phenomenon; but, perhaps, constituting the true systematic distinction between algæ and fungi. The torula, or mycoderma cerevisiæ, as it has been called, so long as the supply of sugar and glutinous matter upon which it lives exists in the liquid in abundance, continues to increase by the production of gemmæ or subdivision; but, as soon as these contents are exhausted, the articulations become very much elongated; the gemmation or subdivision ceases; and, where the fungus comes into contact with the air, sporules are produced. This is readily witnessed in the common members of the lower fungi, such as those which drop into a mixture of sugar and urine or water from the air.

The so-called sporules found in the favous capsules in their early stage are, I believe, only the smaller joints of the fungus produced by gemmation, and not spores, which are probably not formed until the capsule has burst or been broken. The long filaments which have been above alluded to are apparently produced as an effort to reach the surface of the liquid, when the contents of the liquid can no longer afford the material requisite for the growth of the fungi. In all these cases the spore-bearing filaments are found upon the crust-like scum covering the surface of the liquid.

Professor Owen has given us an elegant description of the simultaneous occurrence of these three modes of reproduction in the Infusoria, in his Hunterian Lectures. Speaking of the Polygastria, he says—"At once fissiparous, gemmiparous, and oviparous, the androgynous organs for the development of the fertile ova were, as has been shown in the preceding lecture, of a sufficiently complicated character. In creatures whose most obvious and common mode of propagation is by spontaneous fission . . . . . to what end were special organs of generation developed? . . . . . I am apt to think that the fissiparous reproduction has reference principally to increasing the numbers of individuals in the infusions, or receptacles of decaying organisms, in which they at that time exist; whilst the development of fertile ova has relation to future and different localities or collections of such infusions, into which the ova may be conveyed more easily than the entire animals; and so lay the foundation of new generations of infusoria."* So that this propagation by simultaneous gemmation or subdivision, and production of ova or sporules, is not only found to occur in the vegetable kingdom, but is in perfect harmony with what occurs in the animal kingdom also.

In conclusion, I shall give a slight abridgment of M. Lebert's excellent summary or arrangement of the diseases most commonly affecting the scalp. This admirable microscopist and pathologist also believes in the fungous nature of true favus, upon which I cannot conceive the existence of any further doubt possible.

The eruptions on the hairy scalp may be arranged in the three following categories; the two first of which constitute false, the third true favus:—

1. Augmentation of the epidermic secretion; thin greyish-white pellicles between the hairs; sometimes augmented sebaceous secretion; absence of signs of inflammation. Pityriasis capitis.

2, *a*. Inflammation of the superficial part of the skin, the office of which is to secrete the epidermis: this we shall denominate superficial dermatitis. It is characterised by the eruption of very superficial vesicles or pustules, which dry and form thin, yellowish, foliaceous crusts, in which epidermic elements preponderate over those of pus. The hairs are often glued together: this is chronic eczema of the hairy scalp.

2, *b*. Inflammation of the deeper layer of the skin; characterised by more manifest, yellower, and more deeply situated pustules, and more surrounding inflammation; subsequently, the formation of thick, brittle, yellowish, porous crusts, which are sometimes granular and mixed with purulent serosity: the hairs are glued together to a certain extent. This is true dermatitis of the hairy scalp; forming eczma impetiginodes, or rather impetigo of the hairy scalp.

3. True favus; fungi vegetating in the substance of the skin. Two forms:

a. fungi projecting above the surface of the skin and epidermis; either isolated or grouped together and confluent. The vesicles arising from the secondary inflammation contain the elements of pus and epidermis. This is the porrigo favosa of Biett, the porrigo lupinosa of authors.

b. The fungi much smaller, remaining usually, though not always, concealed under the epidermis, which forms beneath them large expansions of confluent crusts. This is porrigo scutulata, vulgarly called ring-worm.

NOTES ON THE

STRUCTURE, &c. OF TEETH.

By C. Spence Bate, Esq.

[Continued from p. 65.]

The Completed Structure.

On taking a retrospective view of the whole process of the development of a tooth, we find that all the pulp becomes gradually converted into dentine or ivory; that in this process each constituent of the pulp remains in the developed structure; the cells uniformly approximating each other, and ultimately becoming coherent gradually as they harden by the secretion of the calcareous salt.

The areolar tissue is likewise visible in the completed structure; often by its appearance giving a cellular character to the whole structure, and which I think Mr. Tomes has correctly inferred to be the true nature of the larger or primary cells of Prof. Owen, who has figured several examples in the structures of various teeth in his Odontography, of which that of the Dugong seems the most perfect. Mr. Tomes says:—"It looks as though the elements of the pulp had been held together by an areolar tissue, composed of laminæ, with circular interspaces; and that this tissue had become calcified with the pulp." To this conjecture on the part of Mr. Tomes, the fig. 8, given in No. 1180, I think, adds considerable testimony,—the more so since a large portion of the section from which the sketch was taken (but which, on account of its size, is not figured in the cut) assumed in many places an exceedingly regular and cell-like character, but which with care in slightly altering the focus as the object was moved over the field of the microscope, the markings were distinctly seen to be in continuation with those called areolar tissue, which could be distinctly viewed, and, I think, cannot be interpreted into any other structure than that of areolar tissue.

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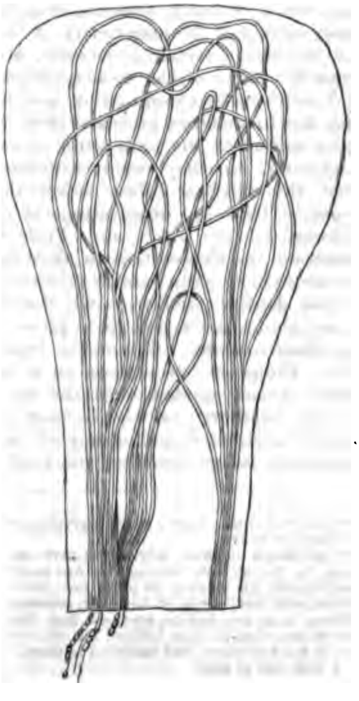
* On the Invertebrate Animals, p. 31.

As the other tissues, so I believe the walls of the blood-vessels remain an integral part of the structure. I am aware that it is contrary to the present received notion of the development of the dentine; but although they are organs which physiologists have removed, yet they seem to feel a difficulty in obliterating them; and, with due deference to the authority, I cannot help imagining but that Professor Owen, in his Odontography, rather fails to explain the phenomena by which their removal take place. He remarks—"I have commonly found the extremities of the capillaries in a state of congestion, and crowded with blood-discs, which were pressed together into polyhedrons, and apparently stagnated and left out of the current of circulation." "The blood-discs nearer the cap of dentine exhibit more plainly the contained granules, to the commencing development of which the irregular contour above mentioned is due. This appearance was associated with an increase of size, a change from the circular to the elliptical form, and a gradual loss of the characteristic colour, which was longest retained by the central granular matter. The tunics of the capillary vessels containing the above aggregated and altered blood-discs become gradually attenuated, and disappear, as if dissolved, before reaching the field of conversion."*

If they be dissolved, by what agency is not stated; and it is singular to presume that the membrane of which the tunics of the capillaries are composed should be liable to dissolution, and others of a similar nature remain persistent; for of all the tissues this is the only one which physiologists say is not persistent: and moreover, there is not a parallel in organic creation where an organ which has been of vital importance in the development of a tissue is obliterated as this is described to be. I am aware that the nerves of the pulp have been mentioned as affording evidence of a tissue receding, as it were, before the development of dentine; but the case is not applicable: the nerve holds not the same relation to the pulp as the capillaries do: they are not present as an integral part of the structure, but merely by their presence giving vitality. What the connecting poles of the galvanic battery are to the object to which the electric current is applied, so are the nerves to the pulp: their presence is essential to activity and life.

But, again, there is not, so far as I am aware, any evidence to show that the nerves do recede in the meaning as applied to the capillaries—viz., by being dissolved. It is true that the pulp decreases in size; but the nerve is never in contact with the walls of the pulp-cavity, and therefore cannot be acted upon by the compression more than, by being shut within a smaller space, must perforce be obliged to conform itself to that space by forming more inflexions and folds than necessary in the younger pulp, and of which the annexed figure (fig. 22) of a nerve taken from an adult,

FIG. 22.



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* Odontography, introduction, p. lvi. & lvii.

about 25 years of age, may give some idea.

But to return to the original proposition, that the walls or tunics of the blood-vessels remain persistent in the completed structure of the tooth, and form the parietes of the tubuli of the dentine.

Dr. Schwan remarks:—"If the pulp be drawn out of the pulp-cavity of a hog's tooth, and the margin of the pulp be examined, it is seen that each of the superficial cylindrical cells is prolonged, opposite the dentine, into a short fine fibre, and that these fibres correspond in diameter with the dentinal tubes projecting from the surface of the pulp. I once believed that they projected into the dentinal tubes; but these ideas I have given up, since I have observed nothing of the kind in human teeth, and since this explanation brings with it a difficulty in regard to the teeth of the pike."[*]

In Part XXXVIII. of the Cyclopædia of Anatomy and Physiology, p. 927, Professor Owen states that he "had the teeth of the great elephant at the Zoological Gardens longitudinally divided soon after the death of that animal in the summer of 1847. Although the pulp could be easily detached from the inner surface of the pulp-cavity, it was not without a certain resistance; and, when the edges of the co-adapted pulp and tooth were examined by a strong lens, the filamentary processes from the outer surface of the pulp could be seen stretching, as they were withdrawn from the dentinal tubes, before they broke." Thus the observations of Dr. Schwan on the hog,[†] and Professor Owen on the elephant, both show that processes of the pulp pass into the tubuli of the dentine; but my own observations[‡] tend to show that these processes are filaments sent off from the capillaries. Professor Owen says, in a sentence already quoted, that the tunics of the capillary vessels become gradually attenuated and disappear, as if dissolved, before reaching the field of conversion, where the pulp is transformed into dentine; but in the fragment of tooth from which fig. 2 is taken, the attenuated processes do not fall short of the "field of conversion," but penetrate into the new-developed structure; and where, I believe, instead of being dissolved, they remain and become the persistent parietes of the tubuli in the developed dentine; and, if I desired stronger evidence than the fact of perceiving the capillary enter the tubuli, I would point to fig. 3, plate 109, of Professor Owen's Odontography, where the tubuli taken from the dentine of a calf, by their form and mode of anastomosing, can scarcely be recognised from the capillaries of the pulp in the same animal.

I think the fact that the diameter of the tubuli is too small to admit of blood-discs is of little moment; because we find that, in the early-developed structure, the entrance is much larger; thus the tubuli become smaller upon dentine being developed: and, moreover, this is not an exception to the law in blood-vessels, even in the soft tissues; for we find in the web of the frog's foot there are certain capillaries which, too small to admit of red corpuscles, will enlarge and permit them to pass, while others diminish and preclude their admission.[*] Thus, because blood-discs cannot enter, is no evidence to show that the tubuli never had been blood-vessels.

It is only by assuming their origin to be so, that I think the passage of the tubuli into the structure of the enamel passing through the membrane, the capsule of the dentinal pulp, can be explained; for it can hardly be supposed that dentinal cells could have existed in the enamel pulp, and, even if they had, that they should have their nuclei continuous with those in the dentine, seeing that the development of the two structures is not simultaneous,—the dentine preceding the enamel. So, also, with regard to the cementum upon the fangs, the tubuli anastomose with the lacunæ in a line radiating from the central pulp—that is, in the diameter of the tooth; but they do not anastomose in a vertical section.

Again, we often find that in the dentine one of the tubuli will occasionally in its course form a peculiar curve, by which the later developed part returns upon that which has been developed previously, sometimes in a spiral form, sometimes in a circular course, but never uniting to form a ring. When we consider that each tube, from the outer to the inner extremity, gradually enlarges in its diameter—a fact illustrative of its progressive development—we can hardly explain the phenomena by the theory of development as propounded by Prof. Owen in his Odontography, or by Mr. Tomes in his Lectures on Dental Physiology and Surgery; for, according to either of these theories, which substantially are the same, the nuclei of the cells from which the tubes are developed gradually increase in diameter as the development progresses. But in this case we see that the tube is larger in a portion previously developed to that which is later, and this without any appearance of abnormal action, as the increase is exactly relative to the gradual increasing diameter of the course of the tube.

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[*] Quoted from Owen's Odontography, introduction, p. xxxvi.

[†] Although Schwan afterwards gave up the idea, he did so only because he was unable to corroborate his opinion by other successful observations; but, since it has been repeated by others, it is but fair to presume that the fine fibres described by him fulfilled the office which he, in the first place, had assigned to them.

[‡] Vol. xlv. p. 336.

[*] Carpenter's Manual.

It is consequent upon the presence of these tubes, that the dentine is porous to an extent depending upon the diameter, and the more or less of their filling up with calcareous deposit.

I have previously stated my conviction that the cells of which the dental structures are built up secrete only the phosphate salt of lime. My chief reason for supposing this is from the fact, as stated by physiologists, that carbonate of lime is not found in the blood; therefore the cells can only secrete by endosmose that salt which exists in solution. If so, then the carbonate of lime exists probably in an amorphous form, being elaborated by some power through the agency of the carbon existing in the animal tissues, by which it is held in combination: thus, according to the amount of salt so formed in connection with the walls of the tubes, will be the diameter of the channels left, and which are gradually filling up from other causes. They are occupied in their normal state by fluid emanating from the pulp, which, without doubt, holds certain salts in solution, and much of which are most probably deposited, tending gradually to the filling up of the tubes. It is this process which has been called "nutrition;" but since the deposit of lime in the tubes tends to decrease the toughness and strength of the structure by making it less permeable to fluids, and so withdraw from the animal portion of the bone that amount of moisture on which its pliability depends, I think the process may be more rightly looked upon as deteriorating in its influence, than beneficial or nutritive to the structure.

This structure (the dentine) is one upon the development of which all the other tissues of the tooth are dependent, both in relation to development, form, and position of the completed structure. As the dentine progresses in its development, the tooth is raised from the floor of the sac until it presses against the gingival process of the mucous membrane of the mouth. This process, being the inner lip of the original primary groove, is very unequal in different subjects; in some mouths being exceedingly thick, in others scarcely present; and it is to this fact that the early or later protrusion of the deciduous teeth through the gums is due, rather than to the greater or less amount of development of dental tissues, which appear, as far as I have had the power of observing, to be very equal in growth, according to the respective age of the fœtus,—which circumstance might, by careful examination, where opportunity is not wanting, be made available in order to calculate with great nicety the age at which the fœtus has arrived. I have formed this idea upon having observed that the teeth are equally developed in a small fœtus at birth as in one of larger proportions.

As the dentine increases, so diminishes the pulp, until it becomes a mere central canal: this pulp is still highly vascular, and continues with far less activity to develope the tissue to which Prof. Owen has given the name of osteodentine, on account of its supposed microscopic resemblance to bone. This sometimes fills the whole cavity of the tooth, but only as the result of disease or some abnormal action of the pulp.

The pulp is not only vascular, but is likewise a highly sentient organ, being supplied by filaments from those branches of the fifth pair of nerves which supply the mucous membrane and skin of the lips both in the upper and lower jaws, and thus by their terminations establish an immediate connection between the structures; the skin, mucous membrane, and teeth, which last, throughout its existence, is to be viewed in the light of an ossified papilla, or rather in consideration of the pulp, as a papilla inclosed within a case of bone, and as such should always be surgically treated.

The filaments which are present in the pulps of teeth are nerves of sensation only, and supply the organ with sensibility, the study of which, on account of its being modified by peculiar circumstances, may not be altogether uninteresting in connection with that of innervation generally.

Sensation is of a very low degree in the perfect, well-developed tooth; the enamel being present, it is only cognizant of strong forces, such as great heat, cold, or violent friction; but if the enamel be removed, we find that the teeth are extremely sensitive to impressions of less power; so much so, as to induce some to believe—and among them Prof. Owen[*]—that fine filaments of nerves must penetrate the structure through the tubes; but this is negatived by observation of the nerves which are seen to terminate in loops[†] within the pulp-cavity, into which it enters at the base of the fang. The quantity of nervous filaments in the pulps of the teeth are not alike numerous, existing in some in great numbers, in others merely a thread or two can be traced, while in teeth such as those which in some mouths wholly decay without pain or inconvenience to the possessor, I presume they are altogether absent, the loop terminating external to the orifice at the extremity of the fang, to the decreased dimensions of which communication in old age, and the consequent paralysation of the nervous pulp, I attribute the gradual decreasing amount of pain which old persons are liable to suffer when the pulp is exposed from caries, or the dentine through the influence of attrition.

Some teeth are so exceedingly sensitive upon the exposure of the dentine, by the removal of the enamel, whether it be from accident or caries, or when exposed at the necks of teeth from the loss of their external attachments, that acute pain is felt from heat, cold, acids, sweets, and the contact of hard substances. This sensation in a tooth has often been an object for speculating as to the cause producing it; but I am not aware that any result has arisen from them which may preclude the necessity of further inquiry.

Practical observation shows that the sensation is most acutely felt where the dentine is healthy and normally developed, no matter whether it be at the termination of the tubes immediately beneath the enamel, which is stated to be most sensitive by Prof. Owen, or deeper in the structure. If caries be present, the sensation is not felt, but upon the removal of the diseased structure it is very perceptible. It is often acutely felt where it is necessary by an angular instrument to break down irregular edges in the enamel in order to arrive at the more extensive disease in the dentine beneath, but which ceases as soon as the jarring at the commencement of the operation subsides. All these, together with the fact that simple contact of substances of equal temperature produces no sensation while the tooth is cognizant of the slightest friction, induces me to believe that the sensation in question is produced by a vibratory motion given to the dentine by the action of the foreign body on its surface, in which, perhaps, the parietes of the tubuli are more directly concerned, or the fluid contents.

With regard to acids, sweets, &c., we must first learn the peculiar manner in which they may act so as to produce taste, &c., before we can solve the mystery of their presence causing a sensation of pain when exhibited in contact with dentinal tissue; but it would lead us to inquire whether all sensation may not to be referred to a vibratory motion given to the nerve through the agency of a force applied to the material in which it exists? This idea seems supported by the termination of the nerve in loops, at which points only is sensation perceived, and which is a modification that offers a most ready tendency to vibrate, and which we find is increased by a greater quantity of bends and inflexions in those parts of our organization which are most peculiarly sensitive, such as the tongue, lips, and fingers,* as compared with those loop terminations which exist in less sensitive parts.

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[*] "That some elementary prolongations of nerve may also be continued into these tubes, who may confidently deny?"—*Odontography*, p. 470.

[†] It would appear from recent observers that some doubt exists as to the termination of nerves in loops; but in the pulp from which the sketch accompanying this paper was taken the loop could be distinctly traced, though I have examined many others to corroborate the fact, but without success. This I consider was owing to the diseased character of the pulps, upon which generally the opportunity of examining exists. I have also seen the nerve so to terminate in the tooth of a sheep.

The dentine, though not in itself a sentient body, has the power of transmitting a force to the internal pulp, which produces consciousness. Hence we observe that one important office which the enamel has to fulfil is that of precluding the irritation which would be consequent upon the action of any foreign body coming in contact with the dentinal tissue which it covers. It also, by being impervious to fluids of any sort, and by occupying a position upon that portion of the structure which appears above the gum, acts as a barrier to the passage of any vitiating material into the tubes of the dentine, which might act chemically upon that structure.

This negative power belonging to the enamel is carried out alike in all teeth, whether simple, as in carnivora, or duplex, as in the pachydermata, in the latter of which the elephant may serve as the type where it stands a tissue impervious to fluids between two porous structures, the dentine and the crusta petrosa. And lastly, it by its density of structure is admirably adapted to protect the whole tooth from a too rapid destruction from mechanical attrition, and therefore enables the tooth to fulfil its requirements throughout the greater portion of the animal's existence.

But the great density of the structure to which its hardness is due, at the same time renders it exceedingly brittle, and makes it more liable than other tissues to be broken down by accidental causes. Thus we find that while in the carnivorous and insectivorous mammalia, the mastication of soft food, which is performed by a vertical action of the jaws, the enamel is not so liable to be broken, particularly when we consider that each prism of enamel receives the shock of mastication upon its end, therefore upon its strongest diameter while it is supported laterally by other prisms. But among the graminivorous mammals, where the enamel folds deeply into the structure, mastication is performed by a lateral action of the jaws; thus the prisms of enamel are acted upon at their short and weaker diameters, and this under the influence of food which requires great and prolonged trituration: under such circumstances the enamel would have been very liable to fractures, had not nature provided a support in the presence of the thickly developed crusta petrosa which exists in the teeth so formed.

But this is not the only advantage which this class of tooth derives from the crusta petrosa, which, by being the softest of the three chief tissues of which the teeth are built up, creates an uneven surface, by which the food is more easily reduced to a state fit for deglutition; it also, by being porous through the presence of the lacunæ and canals, which latter open upon the outer walls of the structure, admits fluids to the centre of a tissue containing a large portion of animal matter, and which is very liable without it to crack and split; it also by its less perfect development tends greatly to diminish the power of sensibility in the tooth to which it might be liable, as well as by its great thickness tends greatly, by increasing the diameter of the whole tooth, to diminish its liability of being injured, or being shaken or displaced from violence.

But in man and other animals having simple formed teeth, the enamel is protected from rude assaults only by an extremely thin osseous layer, the cementum or cortex, but which, both by position and structure, renders an efficient service to the tooth. The direction of this structure is different from that of the enamel, and the presence of calcareous salts less; therefore, by being softer, it offers a medium which assists to diminish the influence of shocks from foreign bodies; by its direction it tends to fill up any intermediate spaces between the prisms, and from its containing a greater proportion of animal matter it renders the action of chemical agents upon the enamel less immediate, since generally those substances which act most readily on calcareous matter have little affinity for animal tissues, and *vice versâ* those which act on animal tissues seldom have any affinity for salts of lime.*

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* Compare figs. 11 and 67 with 63 in Dr. Carpenter's Manual of Phys.; and 48 with 101 in Todd and Bowman's Physiological Anatomy, vol. i.

* This remark refers to substances liable to be brought into contact with the teeth naturally; and of course such escharotic acids as sulphuric and nitric cannot be supposed to be among them.

This tissue not only protects the enamel, but it also encloses the dentine, and, as Prof. Owen justly remarks, is the medium by which the dentine is connected with an external lining membrane—the periosteum of the tooth, or rather *peridentium*.

This layer is universally received to be the continuation of the periosteum which lines the alveoli of the jaws; but if this be true, there certainly exists an antagonistic principle between the two, which does not belong to the periosteum in any other parts of the organic system. Speaking of man and the higher vertebrated animals, I am not aware of any other part of the system in which the periosteum is folded back upon itself, or that two bones exist in immediate contact, separated only by periosteum; and whenever accident induces such a position (as in unreduced fractures of bones), anchylosis immediately ensues, then it becomes an interesting inquiry how it is that these two tissues, existing in immediate contact, as that which covers the fang of a tooth does in relation to that which lines the alveolus in which the tooth is planted, do not unite, by a process of ossification, when excited by inflammatory action? I write advisedly, believing that the attachment of the alveolar process, which is occasionally brought away with an extracted tooth, and commonly called anchylosis, is not a union by osseous tissue, although it appears, when examined by the naked eye, to have been amalgamated with the tooth, and which adheres so firmly that they resist every effort made to separate them, but, when a thin section is cut, distinctly exhibit the membraneous line of demarcation between the two structures.

Nay, more; that[*] a union does not take place, even when the peridentium itself is excited, to develope osseous tissue, but instead of inducing a union between the two structures it tends to produce an opposite action; that is, the growing structure on the fang of the tooth, by pressure, induces absorption of the osseous walls of the alveolus, and thus not unfrequently the septa are broken down, and the two fangs of the same, and sometimes separate teeth, become united. Absorption of the normal tissue accounts, I think, for the absence of all pain attendant upon exostosis, or the abnormal growth of the fang of teeth.

The growth of bony structure upon the fangs of teeth I presume to proceed after the similitude of the internal growth of layers of bone within the Haversian canals, from periosteum, as described by Prof. Sharpey, in which the membrane acts as an organ for the development of cells, which cells are afterwards converted into bone by secreting the respective salts: this being the case, the original membrane retires before the new development of bone.

With regard to the teeth, the original membranous tissue is the capsular investment of the tooth: then is it not something more than probable that the persistent peridentium (as I have called it here, for the sake of clearness and distinction) is developed from this original tissue,—namely, from the capsular investment of the tooth, which is not a continuation of the periosteum that lines the alveoli. If so, then we perceive a great distinction between the two tissues: the one being a periosteum; the other having its origin in the mucous membrane,—that is, one belongs to the internal skeleton, while the other must be classed with the dentinal tissues.

I am aware that, among the lower vertebrate animals, in the normal structure the teeth and jaws anchylose in one; but I think that this exception is of infinite service in order to support the idea, which I think is no unprofitable speculation.

The animals in which the teeth are so amalgamated are, I believe, to be found only among the reptilia, of which I take the "Monitor" (baranus) as an example, a beautiful figure of the tooth of which, in connection with the bone, is given in Professor Owen's Odontography.

In these animals the skin upon the head and jaws lies so close, that I believe it fulfils the office of a periosteum: it lies so closely that it is almost impossible to remove it. These animals being without lips, the skin lies close to the bone until it reaches the teeth, from whence it is continued on the internal surface of the jaw as the mucous membrane from which the teeth are developed. Now may not the alveoli of the jaws, which are only upright grooves instead of sockets, be lined by a fold from the same membrane as that which envelopes the rest of the jaws? If so, it must be considered as a continuation of the mucous membrane, and therefore stands in relation to that of the membranes which enable two separate fangs of teeth to unite, which cannot, or do not, anchylose with true osseous tissue.

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[*] I am here liable to the charge of a seeming contradiction; in the last paper a figure is given which is said to be anchylosed with the bone. It certainly was so attached as not to be separable, even in preparing a thin section for the microscope; but examination by that instrument shows a line, more or less, of demarcation, which does not exist when the separate fangs of teeth unite, or the teeth and bone in reptiles.

It is since the foregoing series of papers have been written that good fortune has placed within my reach the tooth from which the accompanying cut is taken. It is a specimen unique of its kind, and possesses considerable interest for the odontologist. I am aware of two teeth only which are at all parallel,—that is, where a disunion or fracture has taken place, resulting in the permanent development of the tooth: the one is shown in Prof. Owen's Odontography, where a tusk of the hippopotamus had been "fractured and reunited;" the other is that of a human "central incisor tooth united after fracture of the fang." In both these cases the displacement is slight, merely indicated upon the periphery of the tooth by the presence of nodular-developed dentine; whereas, in the present case, the dislocation is to an extent which places the crown at a right angle with the axis of the rest of the tooth.

In the case of the hippopotamus, Prof. Owen says*—"A longitudinal section of the tusk showed the pulp-cavity obliterated at the fractured part, and for some distance below it, towards the base of the tusk, by a mass of osteo-dentine, deposited principally in the form of nodules closely impacted together; their convex sides projecting into the re-established pulp-cavity next the base, the general disposition of the osteo-dentine being very like that in the centre of the tooth of the cachalot. The remains of the pulp-cavity in the protruded crown of the tusk were unusually conspicuous, in the form of a narrow canal near the concave side of the tusk, and opening like a fistula upon that surface just beyond the fracture. Another irregular, slender canal extended transversely through part of the uniting substance, and opened on the concave side of the tusk, just below the preceding. From these appearances it may be concluded that the tusk, either by the action of a shot or other violence, had been snapped across its implanted and hollow base, with probably, also, fracture and injury to the prominent socket; but that the broken portions were held together by their adhesion to the surrounding parts, inflammation of the pulp and capsule had ensued, ending in an altered mode of action in the calcifying processes which produced the substance called, from its near resemblance to bone, 'osteo-dentine.'"

With regard to the human incisor, Mr. Tomes remarks*—"It has been believed that union of a fractured tooth could never occur; but the preparation which I am enabled to show you, through the kindness of my friend Mr. Saunders, whose property it is, shows that union not only can, but in this instance has, taken place. The tooth is a central incisor of the upper jaw. The fracture extended obliquely through the middle of the fang, and was obviously attended with slight displacement, in which position perfect union has taken place. Several small nodules of dentine mark the line of union, the oblique direction of which, together with the displacement, are so well marked, that there can be no doubt of the producing cause of the present appearance of the tooth,—namely, fracture and subsequent union."

From neither, I believe, of the foregoing specimens has a section been taken in order to observe the structure microscopically; therefore the present addition to these rare cases receives an increased degree of interest from having been so examined.

The history of the case is as follows:—The tooth was extracted from a young man, about twenty-one or twenty-two years of age. He said that, when a mere child, he was struck with a blow from a stone, which broke his tooth. This, at first, from appearing to be an accident which had occurred previously to the loss of the deciduous tooth, I was inclined to consider as irrelevant to the case; but it was all that he had to tell me. Upon placing a section under the microscope, it fully verified the statement made,—viz. that the accident occurred previously to the tooth having been developed; that the blow which broke the deciduous tooth forced the fang back into the alveolus upon the crown of the undeveloped permanent tooth, and dislocated the ossified portion marked by the two sides of the triangle, A C B, from its axis on the pulp, drove the developed point B into the centre of the soft and yielding tissues of the pulp, and so crippled the whole structure, and entailed upon it such a change in the character of development, interesting to contemplate and valuable as facts, which appear to me to support some of the *heretical opinions* which I have endeavoured to lay before the odontologist.

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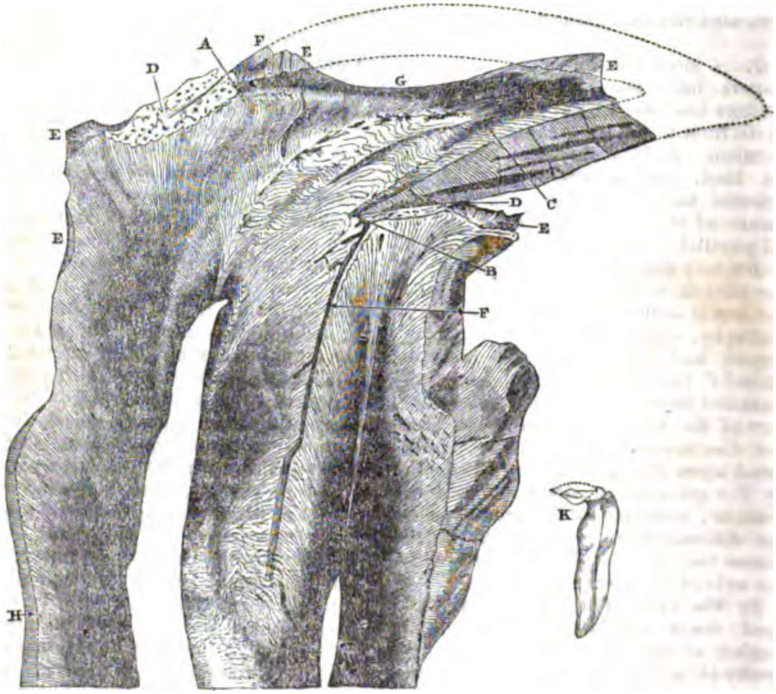
* Odontography, p. 569.

* Dental Physiology and Surgery, p. 189.

FIG. 23.



A C B show the line which separates the dentine and enamel which had been developed previous to the accident, which caused the dislocation of the crown from its normal position in the axis of the rest of the tooth, from that which has been developed subsequently.

D D, an arrest in the development of enamel, which had resulted in the formation of an abnormal tissue analogous to crusta petrosa in the complex teeth of graminiform quadrupeds.

E E E E E, fragments of perfect enamel.

F F, cementum, being portion of the lacerated (?) capsule which had become entangled with the pulp, and therefore abnormally developed in the centre of dentine on one side, and amidst that of the abnormally-developed crusta petrosa on the other; in both of which the cementum can be distinctly traced to the surface of the previously developed enamal—its normal position.

G, a depression worn by mastication.

H, cementum.

K, same tooth natural size.

In the first place it would be but reasonable to suppose that, if the tubuli of the dentine were developed according to the notions propounded in either of the theories previously advanced by physiologists, that a dislocation of the ossified portion on the surface of the remaining pulp would cause a disunion of the nuclei of the dentine *cells developed* in their cohesion with the *cells undeve-*

loped, the result of which would produce a break at that point in the tubuli. But this is not the case; the tubes, though bent and contorted to a remarkable extent, still exist entire from the periphery to the central canal, after the manner which might be expected would be obtained by flexible tubes. With one small exception (an exception which proves the rule), where the point B, which is broken from its normal position at E, an entire separation of structure has been caused to a considerable extent, in such a manner that a layer of the external cementum has been dragged in to the centre of the dentine; therefore abnormally forming a compound tooth.

The tubuli which exist between the enamel and the line B C are, at the lower extremity of that line, broken from their original continuations, which are to be found in the dentine beneath the enamel at the point E on the same side of the figure.

The new developed dentine, which continues the structure from the broken terminations in the line B C, is exceedingly free from the presence of tubuli; but those which do exist commence anew in loop-like termination.

Again, in the preceding papers I have been led to deduce, from certain facts and evidences, that the crusta petrosa is a peculiar tissue developed from the same pulp as the enamel, originating in a normal arrest in the development of the latter structure.

In the present section under our notice, arising from the injury inflicted, an arrest in the development of the enamel has taken place at the immediate points of dislocation of the structure on each side, and consequently a tissue (D D), in appearance identical with the crusta petrosa of the complex teeth of graminiferous animals, has become developed in its stead, but which is a tissue abnormal in the tooth of the human subject, to which the present refers.

It also shows that the apparent fracture is not an injury done to dentine already developed, but to its connection with the pulp; and therefore would lead us to infer that the tooth spoken of by Mr. Tomes, and of which he gives a figure, is not caused by a "fracture and subsequent union" of developed dentine, as he infers, but caused by a dislocation at the point where the developed tissue meets the co-adapted pulp.

[To be continued.]

ON SOME CHEMICAL PHENOMENA OF RESPIRATION. BY HR. HORN.

Hr. Horn gives the following results of his examination of the gases expired from the lungs under different circumstances:—

1. The longer the air is retained in the lungs the greater the proportion of carbonic acid it contains. Thus:—

	Carbonic acid.	Oxygen.	Nitrogen.
Under ordinary circumstances	3·8	16·3	79·19
The breath held during ten seconds . . .	5·4	14·5	81·1
" " sixteen seconds . .	7·2	12·4	80·4

When the gases are expired under pressure—*e. g.*, through mercury—the proportion of carbonic acid is still larger. The following average variations have been observed by the author at different periods of the day:—

	Carbonic acid.	Oxygen.	Nitrogen.
Morning	3·4	16·70	79·85
Afternoon	4·6	18·68	93·34
Evening	3·6	16·42	79·92
After midnight	2·2	14·74	66·42

2. The expiration of carbonic acid is at its minimum at nine o'clock in the evening, and between three and four in the morning; the maximum points of the expiration of carbonic acid are from one to two o'clock in the afternoon, from six to eight in the evening, corresponding with the most frequent periods of exacerbation of disease.

3. The expiration of carbonic acid is augmented after taking food.

4. Infants and growing children expire more carbonic acid than aged persons; men more than women; and individuals of a sanguine and bilious more than those of a lymphatic temperament.

5. Moderate exercise, and the temperate use of spirituous beverages, increase the quantity of carbonic acid expired.

6. Drunkenness and narcotism produce the reverse effect.

7. Pain, sedentary occupations, menstruation, inflammation of the lungs, and fevers, induce a diminution of the quantity of carbonic acid expired.

8. Acute exanthemata augment the proportion.

9. Diarrhœa causes a decrease in the expiration of carbonic acid.—*Gazette Médicale*, 1850.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 14, 1851.

HAVING, in our last number, entered rather fully into the probable consequences of the enactment of the "General Practitioners' Bill" in its present shape, it is only fair to state that the Royal College of Surgeons of Edinburgh have shown a disposition to support this measure, "in the event of its clauses being modified to their satisfaction." We subjoin a copy of the resolutions unanimously adopted by the Royal College of Surgeons of Edinburgh on the 3d instant:—

"RESOLVED—

"That the College deeply regret the failure of a general measure of medical reform, proposed by a conference representing all the great medical interests of the United Kingdom; approved of in its leading principles by the Lord Advocate, Chairman of a Committee of the House of Commons on Medical Law Amendment; and certain of having received the support of the Government, if it had been brought into the House of Commons with the concurrence of the delegates of the conferring bodies.

"That the College, having been long familiar with the successful working in Scotland of a system under which the qualifications of the general practitioners of the country have been conferred by the existing great medical incorporations there, regret that a similar advantage should not have been bestowed upon England under the auspices of the Royal Colleges of Physicians and Surgeons in that division of the kingdom.

"That, from the experience which the last few years have afforded—and, more especially, from the decision of the Council of the Royal College of Surgeons of England on the plans proposed by the Conference Committee, the College is fully persuaded that there is no reasonable prospect, at the present time, of any improved system of medical polity being adopted and carried into effect by means of the existing English medical incorporations; and that, therefore, the great object must either be abandoned as impracticable, or sought by means of other mechanism, called into existence by the Legislature for that important purpose.

"That the College have seen a Bill, brought into Parliament by Mr. Wyld, which is framed upon this principle; and which is calculated to abolish injurious exclusive privileges; to open the practice of all the branches of the profession in England to all educated and qualified medical men, wherever their education and their legal qualifications may have been obtained, and to establish a principle of reciprocity of privilege between the medical men of England, Scotland, and Ireland.

"That without at present entering into the consideration of the details of the said Bill, some of which may require to be amended in order to secure its efficiency for the purposes contemplated by its projectors, the College do now resolve, for the reasons above assigned, to give their support to its principle, and to authorise their Medical Reform Committee, in the event of its clauses being adjusted to their satisfaction, to petition Parliament in its favour in the name of the College, and to give their best assistance to the promoters in perfecting it, and carrying it into legislative effect during the ensuing session of Parliament."

It is evident from this document, that the Edinburgh College, in utter despair of amalgamating the two English Colleges so as to constitute one body for granting licenses in Medicine and Surgery, are disposed to accept with favour a modification of the General Practitioners' Bill, rather than adopt the alternative of abandoning medical legislation altogether. We regret that some kind of union between the two English Colleges cannot be brought about for the purpose of licensing the general practitioners of the Empire: we believe that such an arrangement would be far more acceptable to the profession than the incorporation of a new College inferior in title and station to the two ancient institutions of the country. We cannot, however, share in the opinion of the Edinburgh College that the plan of a mixed Board of Examiners is yet unattainable. The real cause of the present obstruction to medical legislation requires to be made public in a simple form: it may be that demands are made incompatible with the existence of the two Colleges as independent corporations, or that their proposed union for the purpose of an examining Board is coupled with conditions which they cannot accept without surrendering their privileges as Royal and Chartered Institutions. It cannot be expected that they should consent to any act of self-immolation; and if their views be correct, this would be the inevitable result of acceding to the propositions hitherto made to them. On the other hand, it is contended that the rights of the general practitioners would suffer, unless they were permitted to have a control over the Colleges, both in respect to internal government and the regulation of medical and surgical education throughout the empire, including the power of withholding and granting licenses. If each party would reduce its wishes and claims to a few simple sentences, it would be easy for the profession to judge with whom the cause of obstruction lies. At present the whole affair is as intricate as any lawsuit in which plaintiff and defendant are allowed to ramble *ad libitum* in their pleas, and to make their statements without any particular regard to the rules of evidence. We want something like precision in the statement of demands, and of the reasons for the refusal of these demands; and until we have this, there can be no prospect of a reconciliation of differences.

The views of those who support the establishment of a new College, and the General Practitioners' Bill in its present shape, may be gathered from the clauses which we published last week. It is somewhat difficult to give a short summary of a bill on such a subject as Medical Reform, because, by the omission of qualifying words, we may apparently convey a different meaning to that intended by its authors: nevertheless, we will endeavour to describe in untechnical language what are the objects of the measure. This will at any rate show what the party now so hostile to the two Royal Colleges of Physicians and Surgeons desire to obtain.

1. All medical men, ***now practising as such in England and Wales***, may become Members of the New College within twelve months, without examination, on payment of a fee.

2. All medical men hereafter licensed by any British College may be admitted Members of the New College under certain restrictions without examination, but on the payment of a fee.

3. A power of examining and licensing candidates in medicine and surgery.

4. A reservation of all privileges in England and Wales to Members of the Royal College of Physicians and Surgeons, and to Members of the new College.

Such a scheme is, it appears to us, incompatible with the existence of the two English Colleges:—if carried out, none but those who seek the fellowship would hereafter apply for the diploma of the College of Surgeons; and therefore the simple question for the consideration of the profession is—Shall the English College of Surgeons be destroyed, and its place taken by a College of General Practitioners? The fact may be stated in a smooth way in a proposed act of Parliament, but this is the simple issue to which the introduction of the General Practitioners' Bill must necessarily lead.

Although the Bill has had the qualified acceptance of the Edinburgh College, yet this consists rather in an acquiescence to the principle of establishing a reciprocity of practice throughout the empire, than in an approval of the details. Before they can give to it their support, the clauses must be adjusted to their satisfaction. On this point we apprehend there will be a clashing of interests. It is not likely that the Edinburgh College will consent to any restriction of the privileges which its members now enjoy; and we doubt whether it will meet the views of many of the supporters of the Bill, that the holders of the Edinburgh license should at once acquire, by the mere payment of a fee (*i. e.*, by purchase), all the rights and privileges of English General Practitioners. We do not ourselves object to the Bill on this ground, because we believe the curriculum and examination of the Edinburgh College to be quite as good as any which are likely to be adopted in the proposed new English College; but we protest against this *quasi* benefit being purchased by the demolition of one or both of our English Colleges.

Reviews.

Annales d'Hygiène Publique, et de Médecine Legale. Octobre 1850. 88e No.

THE first paper in the purely medicolegal department of this journal, continues, from the previous number, the *case of the late Countess of Goerlitz*, already fully reported in the forty-sixth volume of the MEDICAL GAZETEE (pp. 899, and 944).

The second paper is a medico-legal report, by MM. Brierre de Boismont, and Boys de Loury, *on the Mental Condition of M. B.*, a Professor of Mathematics, consigned to the Conciergerie for having sent an insulting note to the President of the French Republic, at the period of excitement following his election in June 1849.

The case reported on belongs to that class, of not unfrequent occurrence in practice, the prominent features of which are the absence of distinct delusion or evident hallucination, and the existence of rapidity of ideas, with a limited control over their succession, rather than their positive perversion. Such individuals are more properly to be considered as on the borders of insanity than as having already passed into the insane state. When withdrawn from scenes and occasions fitted unduly to excite them, they may be relatively calm and harmless; but allow them to be placed in opposite circumstances and they are likely to become bizarre or outrageous, and dangerous to themselves or others. Cases of this sort are not a little embarrassing to the practitioner, when called on judicially to decide as to their character, and it may require not a little moral courage resolutely to counsel either the continuance of restraint, or the restoration of the party to entire freedom. In the present instance, in opposition to the advice of the reporters, M. B. was set at liberty, and he has hitherto shown no disposition to abuse it. The investigation, as was to be expected in such hands, was admirably conducted, and the Report is luminously drawn up. Reports, like the one in question, though unknown to the public here, occupy a disproportionate space in the French and German medico-legal publications.

The paper which follows, from the pen of Dr. Evrard, of Beauvois, brings under our notice the result of the judicial *inspection of the body of a* married, but not pregnant woman (age not stated), who had died *from* the effects of *a kick with the point of a boot* armed with large nails. The blow had produced a vertical laceration in each of the labia pudendi, followed by copious hæmorrhage, proving speedily fatal. These lacerations were found to involve the whole depth of the labia, and to have extended along nearly their entire length, leaving the parts in their vicinity uninjured. The body was exsanguious, and the absence of blood in the cavities in both sides of the heart showed that she had died from syncope.

Dr. Evrard is disposed to look upon the occurrence he has narrated as one almost unknown previously to the profession. Although aware of two out of the five cases of wounds inflicted on the female genitals with instruments, which have been brought before the Courts in Scotland within the last twenty-five years,* he does not seem to have known of the cases of contused wounds of the genitals adduced by Dr. Taylor[*] from the English journals.

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* Vide Watson on Homicide, pp. 104—106; and MEDICAL GAZETTE, vol xliv. p. 813.

In connection with this subject it may not be unimportant to notice the discussion which is reported to have taken place at a late meeting of the Edinburgh Obstetrical Society.[†] On this occasion it was suggested by Dr. Simpson, that *the spontaneous* origin of such wounds in pregnant females is not impossible. In support of this view he referred to a case which came under the notice of Dr. Kyle of Dundee, where a pregnant female died from an aperture in one of the labia communicating with a large vein, and produced apparently by straining while on the night-stool. On the same occasion Dr. Thomson brought forward a case from his own practice, where a woman, six weeks after delivery, had nearly perished by hæmorrhage from a wound "in the anterior wall of the vagina, at the union of its upper with the middle third," large enough "to admit the finger to the depth of about half an inch." It was believed by the narrator that the wound had occurred during an intercourse of the woman with her husband, without any violence on his part (?).

Dr. Evrard considers it probable that in his case timely assistance might have saved the woman's life. This opinion, which might have an important bearing on a charge of homicide, is so far corroborated by the history of Dr. M'Clintock's patient, where after a severe laceration of the genitals in a pregnant female, "the woman did well."[‡] Dr. Thomson's case bears out the same point; as does one which happened in our own practice, which may be further deserving of notice, as showing the possibility of wounds of the labia being *accidentally* produced. In this instance a woman, æt. 19, while in drink, inflicted on herself a lacerated wound, to some depth and extent, in one of the labia, by sitting down forcibly, and breaking under her a pot-de-chambre. The hæmorrhage which followed, though at first very copious, was readily suppressed by pressure firmly applied, and continued for some time.

Passing over a short paper by M. Hougoulin, as having no obvious bearing on forensic medicine as practised amongst ourselves, we come to the concluding paper in this division, which details the *Chemical Proceedings in a Case of Poisoning with Arsenic*, as reported by M. Chevallier. The proceedings themselves are only deserving of notice as showing us with what facility discrepancies in medical evidence, which might otherwise have proved fatal to the prosecution, may occasionally be got rid of by proper management. In this instance, after the speedy death of a man strongly suspected of having had arsenic wilfully administered to him by his wife, two experts at Noailles failed to detect this or any other poison in the body, though the remains of the parts operated on by them subsequently yielded arsenic when examined at Paris by MM. Chevallier, Duchesne, and Lassaigne. On this, these last gentlemen suggested the propriety of their being furnished with fresh portions of the body, and that the provincial experts should be invited to meet them, to take part in the repetition of their previous experiments. The result, as was to have been anticipated, was entirely satisfactory: the whole of the examiners having at length joined in the conclusion, that the man had perished by arsenical poisoning. In consequence of this decision, the accused was tried and convicted.

Such an event could scarcely have been looked for in this country in like circumstances. Here, on the contrary, it is more than probable that the original conflict of opinions would have either led to the abandonment of the legal proceedings altogether at the outset, or have ensured the failure of the prosecution, if attempted, as the same pains would scarcely have been taken to secure the unanimity of the crown witnesses.

The space in the Journal devoted to Medical Police contains three papers in all: one by M. Boudin, on *the Production and Consumption of Animal Food* in France; the second, by M. Guérard, on *the Treatment of Persons submerged in Water, or otherwise Asphyxiated;* and the last, by M. Trébuchet, on the *Mortuary Statistics of Paris*, from 1819 to 1828.

In the Appendix (Varietés) we find a list of nineteen substances, just added to the previous number of poisonous articles, the sale of which is restricted in France by legal enactment. The amended list includes chloroform.

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[*] Manual of Medical Jurisprudence, p. 370.

[†] Vide Journal of the Medical Sciences for Feb. 1850, p. 195.

[‡] Vide Taylor, ut supr.

On Excision of the Enlarged Tonsil, and its Consequences in Cases of Deafness; with Remarks on Diseases of the Throat. By William Harvey, M.R.C.S., &c. &c. 8vo. pp. 121. London: Renshaw. 1850.

Mr. Harvey's object in writing and publishing this book is to enter his deliberate protest — derived from his practical experience of the results —against the fashionable operation of removing the tonsils. Mr. Harvey has, with great diligence and care, investigated the subject in all its relations, anatomical, physiological, and pathological; and has adduced sufficient facts to establish his conclusions,—that enlarged tonsils and elongated uvulæ do not *per se* give rise to imperfect hearing; that extirpation of the tonsil, so far from remedying deafness or impairment of the voice, only aggravates both; that, as the disease originates in constitutional causes, so it must be met by treatment directed to the state of the constitution; and that the mere local treatment by removal of these organs often engenders or increases the constitutional disorder.

Our attention was drawn to the subject of the removal of the tonsils by the perusal of Mr. Harvey's observations, delivered at the Medical Society in the session of 1848. We have since that period had frequent opportunities of verifying the author's opinions, which, therefore, we have the greater confidence in recommending to the attention of our readers. It is beyond contradiction that the tonsils have of late been clipped off by many surgeons, as if they had no office in the economy, or as if, indeed, they were altogether abnormal rather than normal organs. We have seen within the last few years a variety of instruments devised for the operation: *e. g.* curved scissors, hooks, bistouries, *guillotines*, &c &c.,—all of which, however, it clearly appears from the results of Mr. Harvey's researches, are not only useless, but worse than useless additions to the *armamentarium chirurgicum*.

We advise the surgeon to study this work before he undertakes the removal of tonsils. Moreover, every practitioner may gain valuable information respecting the general treatment of diseases of the throat from Mr. Harvey's clear and practical remarks.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

January 21, 1851.

President—Dr. Latham.

Tumor attached by a Pedicle to the Areola of the Left Breast of a Female.

Mr. Shaw exhibited a tumor which had been attached by a pedicle to the areola of the left breast of a female, æt. 44, a patient in the Middlesex Hospital. The pedicle, which was of the thickness of a finger, was an inch and a half in length; the tumor was about the size and nearly the shape of the mammary gland, and weighed five ounces. It was formed of five distinct portions, four of which were lobes, somewhat of a pear-like shape, united loosely together by their apices; near the centre, where the pedicle was situated, each lobe was composed of a cluster of lobules of a similar shape, in size varying from that of a currant to that of a cherry, and attached to each other by short stems; the remaining portion was a compact mass irregularly fissured on its surface, or studded with numerous small round lobules, like peas. In the pedicle an artery was felt pulsating with the distinctness of that at the wrist; the tumor was of a pale pink colour, but when the pedicle became twisted, which it was apt to do, the colour changed to a dark purple; it increased in size, became painful, and discharged serous fluid, sometimes blood. The skin of the pedicle resembled that of the areola from which it was prolonged: the covering of the tumor had more the character of a mucous membrane, resembling that of the excrescences in enlargement of the clitoris or of the nymphæ. It was insensible to touch. The tumor commenced ten years ago, in a small wart, which increased slowly in size till a year ago, when it was about half its present dimensions; after that it enlarged more rapidly. On the 17th inst. it was removed by cutting the pedicle across with a scalpel; two arteries were secured. On injecting, and afterwards making sections of the tumor, the centre presented a white homogeneous appearance, with a surface as smooth as cartilage, with a firmness like that of kidney; a few vessels only ran through that part, while along the exterior border, under the cuticular lining, the structure, for an eighth of an inch in thickness, was red and vascular. On submitting fine sections to microscopical examination, they were found to consist of fibrous tissue, and on the application of acetic acid numerous nucleated cells were brought into view. From boiling the structure appeared to be albuminous. Mr. Shaw added, that a few weeks ago, Mr. Henry removed from the breast of a female, of middle age, a tumor, which, although much smaller in size, bore a striking resemblance to the present specimen, and which adhered by a pedicle to the nipple. In that case, according to the patient's statement, the tumor had commenced growing from the period of birth.

Mr. **Stanley** exhibited an

Entire Lower Jaw,

which separated by the natural processes, in a man who had been occupied for nearly six years in a lucifer match manufactory. During the first two years his health was good. Then he was frequently attacked by griping pains in the abdomen, followed by severe purging, but his health did not materially suffer until he had continued in this occupation for five years. His appetite then failed, and he became very feeble and sickly. At the same time he began to suffer severe attacks of tooth-ache, accompanied by swelling of the gums and adjacent soft parts around the jaw, followed by abscesses bursting externally and into the mouth. In this condition he became a patient in St. Bartholomew's Hospital, where, after some months, the entire jaw, with its teeth, was detached; a division of the jaw at its symphysis having been previously made to facilitate its removal. The soft parts in the line of the jaw soon regained a healthy state, and, it was remarked, without any such change in the outline of the face as might be expected from the loss of the lower jaw. It soon became evident that this was owing to the development of a dense fibrous, or fibro-cartilaginous tissue, in the line of the jaw, gradually increasing in thickness and firmness. Portions of osseous substance were soon afterwards discovered in this tissue, which united into one mass of bone, having the natural thickness and outline of the jaw so perfect as not to be distinguishable from it through the soft parts. So well, besides, had the muscles regained their attachments to the new jaw, and so complete was the reconstruction of its articulations, that its movements in mastication were perfectly executed. The reproduction of the jaw occupied a period of about nine months.

Mr. **Stanley** also exhibited

Sections of a Round Mass of Bone the Size of a Large Walnut,

which had been removed from the interior of the maxillary sinus, in a man 34 years of age. He had remarked, during the preceding five years, an enlargement of the side of the face, which was evidently owing to hypertrophy of the superior maxillary bone. But from this he suffered no inconvenience until a short time before his admission into St. Bartholomew's Hospital, when he began to suffer attacks of tooth-ache, accompanied by severe pain in the cheek, and a profuse discharge of matter into the mouth, and by the bursting of an abscess on the outside of the cheek. After some time, it became evident that the alveolar process was in great part absorbed, and that the rest of it was necrosed; but there still being a constant flow of matter into the mouth, it was deemed right to make a free examination of the seat of the disease. For this purpose, the teeth with the gum were removed from one side of the jaw, when a loose mass of bone was discovered filling the enlarged cavity of the maxillary sinus. With some difficulty the osseous mass was extracted by the forceps, exposing the inner surface of the maxillary sinus covered with healthy granulations. From this period all irritation in the jaw subsided; the enlarged maxillary sinus gradually contracted, and shortly afterwards the man left the Hospital, whilst the diseased parts were rapidly advancing towards the recovery of their healthy condition.

It must be assumed that the mass of bone which, in this case, filled the maxillary sinus, was a growth from its walls, and that, as has happened to exostoses growing in other situations, the osseous tumor had perished, and become separated from the walls of the maxillary sinus: hence it was found loose in the cavity of the sinus, and had acted on the surrounding parts as a foreign body, by exciting in them pain and suppuration, which subsided immediately upon the removal of the osseous tumor.

Mr. **Wood** exhibited a

Tumor situated at the Root of the Neck,

which caused death by suffocation. A woman, æt. 22, was admitted into King's College Hospital, Oct. 15, 1850, for dyspnœa and paroxysms of spasmodic cough resulting from a tumor at the base of the neck, protruding just above the sternum, its lower portion passing behind this bone; the upper border, more clearly defined, extended to the cricoid cartilage. It was dense, hard, immoveable, and tightly bound down by the cervical fascia; not pulsatory, and very little, if at all, moved by the act of deglutition. There was no protrusion on one side more than the other; the thyroid cartilage could be distinctly felt above it, and the skin over it was quite moveable, and not discoloured. She complained much of difficulty of breathing, occasionally much aggravated, and succeeded by severe paroxysms of cough, which, during sleep, often awoke her with a sense of impending suffocation, interrupting rest, and obliging her to be propped up by pillows; she had considerable difficulty in swallowing; she spoke in a whisper, and was exhausted by the effort; she complained of no pain, but often of a sensation of swimming in the head; a very loud tracheal rattle was heard, and much large crepitation in the bronchi.

On the 21st, Mr. Wood was called to her in the night. She was lying quite breathless, with a congested face, which symptoms had come on suddenly after a violent fit of coughing. The pulse could just be felt slowly acting. He immediately opened the neck in the median line over the crico-thyroid space, and after dissecting through a white fibrous mass to the depth of an inch, reached the trachea, into which a male silver catheter was passed downwards. This was shortly impeded, apparently by the pressure of the tumor upon the tube, but served to inflate partially the lungs, and the patient began to breathe spasmodically. An endeavour was made to pass a flexible catheter beyond the obstacle, but this was found impossible. In ten minutes she again ceased to breathe, except at long intervals; thereupon the incision was continued through the fibrous mass down to the sternum, which allowed the tumor to project freely externally. The catheter then passed freely as far as the bifurcation of the bronchi; inflation of the lungs was then alternately kept up, but without benefit. No blood escaped during the operation.

Examination. — The lungs were congested, presenting the usual appearance of death by apnœa; otherwise healthy, as were also the other viscera, while the abnormal appearances in the neck were such as the preparation shows, except that the sterno-hyoid and thyroid muscles were more evidently blended with, and lost in, the pearly white cartilaginous-looking mass of the tumor. The tumor seemed to be principally connected with the cartilages of the trachea, or with the isthmus of the thyroid body, the lobes of the gland being perfectly free, though somewhat enlarged. The morbid growth involved the pneumogastric nerves and its recurrent branches on the left side and the arteria innominata. It was also connected with, and displaced downwards somewhat, the left brachiocephalic vein. The microscopic examination shows that the tumor is principally fibrous, interspersed with the ordinary cells, which are less numerous than in the healthy gland.

This tumor seems remarkable in connection with its rapid growth and the extensive implication of the surrounding vital structures.

Dr. Baly exhibited a specimen of very numerous

Scrofulous Tubercles of the Brain, with a Tuberculous Mass projecting into the Cavities of the Heart.

J. C., æt. 16, was received into Milbank Prison on the 30th Dec. 1850, from the prison at Glasgow, where he had been confined at least twelve months. He was pale and thin, but declared himself to be in good health, and passed as a healthy prisoner into the ward.

On the 9th Jan. 1851, he was brought to the Infirmary complaining of feeling ill, loss of appetite and some headache, his manner listless and dispirited, and he was feverish: he had not felt well, he said, since he came to Milbank, but had suffered from headache only a few days. On the night of the 9th, on the morning of the 10th, and again on the night of the 11th, he vomited two or three times. On the 12th he was more feverish, and his face slightly flushed; skin hot; tongue thickly furred: appetite gone; pulse 80, small, sharp, and irregular in frequency: he complained of headache, and of palpitation of the heart: his intellect was undisturbed, but he was peevish and fretful. In the recumbent posture, the beat of the heart, like the pulse, was irregular, and a bellows murmur attending the systole was heard at the base: on raising him to the sitting posture, the action of the heart became more frequent and regular, and the murmur ceased: on subsequent days it was ascertained that the murmur was not constantly present even when the patient was in the recumbent posture: the respiratory sound was loud and coarse in the left lung, comparatively feeble in the right lung; while the resonance on percussion was louder on the right side.

On the night of the 13th inst. slight delirium occurred; the next day he appeared in most respects better, but on the 15th, after having slept at intervals during the preceding night without delirium, he passed into a lethargic state, needing to be roused before he would answer questions, breathing slowly, and passing his motions in the bed. During the 16th and 17th his symptoms were incomplete stupor, occasionally slight delirium, slightly increased heat of head, a dry brown tongue, collapsed abdomen, pulse varying in frequency from 72 to 96, small and rather sharp, and a more dilated state of the pupil, and more sluggish action of the iris of the left eye than of the right.

On the 18th his pulse began to increase in frequency and to lose power, and on the

19th there was nearly complete coma; yet he was sensible of pain; his left arm and leg were completely paralyzed, but when either was pinched, he manifested sensibility by movement on the right side of his body. The iris of the left eye remained nearly motionless even when a lighted candle was brought near the eye; occasionally he uttered shrill cries, and then his face and the right side of his body were agitated by slight convulsions; his breathing was hurried, laboured, and noisy: he died in the evening.

Examination.—Head: A large quantity of liquid blood escaped from the sinuses of the dura mater; the veins on the surface of the hemispheres were not turgid, and the convolutions not remarkably flattened; the arachnoid was only partially clouded, in a slight degree, over the left hemisphere, and in a greater degree over the right, especially about the fissure of Sylvius. Many scrofulous tubercles were scattered over the surface of the right hemisphere, imbedded in the cortical substance of the brain, but in several cases involving also the arachnoid membrane, and connecting the convolutions with the inner surface of the dura mater. These tubercles were most numerous in the vicinity of the fissure of Sylvius, and then the pia mater was intensely injected around them. At the base of the brain the arachnoid was very slightly coloured; only two scrofulous tubercles were found in the left hemispheres, while in the right they were so numerous that in one section fifteen were counted: their total number must have been about fifty: they were seated for the most part in the cortical substance, but several lay in the medullary substance, near the optic thalamus, and in the posterior lobe: their size varied from that of a grain of pearl barley to that of a barleycorn: they were yellow and moderately firm, and were invested by a layer of pale red tough substance. The cerebral substance around them, to the extent of two or three lines, was in several instances softened; and of a reddish tinge. The ventricles of the brain contained about six drachms of limpid fluid; their walls were not softened, the cerebellum and the various parts at the base of the cerebrum were free from morbid appearance. *Chest:* On both sides there were old and partial adhesions; both lungs were very full of blood and bloody serum, and small tubercles of the size of grains of pearl-barley, opaque, and yellowish-white in colour, were thickly disseminated through every part of both; a single small vomica existed at the summit of the left lung. The bronchial glands were much enlarged, but contained little tubercular deposit; those around the right bronchus were the largest, and may have compressed it during life.

The *pericardium* was in every part firmly adherent to the heart; there were no tubercles in the adhesions. The *heart* was of natural size, its substance and its valves healthy, but into the cavity of the right auricle a yellow irregularly rounded mass, of the size of the end of a man's thumb, projected from the septum of the auricles near the entrance of the superior vena cava: a similar yellow mass, of somewhat smaller size, projected from the septum into the cavity of the left auricle. These two masses were the opposite extremities of one tumor of the size of a chesnut, and consisting of firm yellow tubercle, which being formed between the two auricles, had caused absorption of the corresponding portions of the muscular wall and endocardial membrane of either auricle.

Abdomen.—The liver rather large, and full of blood. The *spleen* somewhat enlarged and soft. The *small intestines*, from the commencement of the jejunum to the ilio-cæcal valve, had numerous isolated tubercles: lying beneath the mucous membrane, at the lower part of the ileum, were several puckered cicatrices of healed ulcers, occupying portions of the grouped follicles of Peyer; some of these cicatrices included small tubercles. In the *ascending colon* was one large tuberculous ulceration; the rest of the alimentary canal was healthy. The *mesenteric glands* were enlarged, without much tuberculous deposit; the kidneys and urinary bladder were healthy.

Mr. CANTON exhibited a series of specimens of

Chronic Rheumatic Arthritis of various Joints.

In the shoulder the characteristic changes were to be observed: widening of the glenoid cavity by circumferential osseous deposit; loss of the cartilage and eburnation of the exposed bone; head of humerus similarly affected; the absorption of the long bicipial tendon allows the head to press against the under surface of the acromion process, where an articular facet becomes established, whilst its lateral enlargement brings it in contact with the outer side of the coracoid process near the tip, and there also is found a similar surface; previous to which, however, there is placed between the two an adventitious bursa; the subdeltoid bursa forms part of the cavity of the shoulder joint, as the upper part of the capsular ligament is removed by the pressure of the head of the humerus; the acromio-clavicular articulation not unfrequently opens into the cavity also, its inferior ligament having been absorbed; the synovial membrane becomes villous, fringed, and to a great extent covered by clusters of vascular pendulous processes, the long tendon of the biceps disappears in the disease but previously becomes spread out and shreddy. This latter condition is an early change, and was due, Mr. Canton thought, to the cartilage of the humerus becoming split up, so as to resemble velvet-pile, and in the play of the tendon against the part the latter became frayed and shaggy. The articular surface of the subscapular tendon not unusually becomes like that of the deep surface of the internal obdurator muscle. The capsular muscles were often in a state of fatty degeneration. Specimens and drawings of this complaint in the elbow, hand, the spine, and the hip, were shown. In two dissected feet the distortion from the disease was well marked; in one the great toe was drawn transversely outward above the metatarso-phalangeal joints; in the other the direction was the same, but the toe passed under these articulations. The bones from similarly affected toe-joints were exhibited to demonstrate the exact correspondence of the morbid appearances with all those in the other examples of chronic rheumatic arthritis. This affection of the foot had lately been described by Mr. Coulson, without mention being made, however, of the precise nature of the disease.

Mr. **Prescott Hewett** presented five joints affected with the same disease,—two shoulder-joints, two hip-joints, and one knee-joint; all of which had been taken from the same patient.

Both shoulder-joints were extensively affected with this disease, and presented very much the same appearances. The muscles surrounding the joint were more or less atrophied; the deltoid and supra-spinatus more so than the others. The capsular ligament presented at its upper part a large irregular opening corresponding to the under surface of the acromion, and communicating with the bursa usually found here, which was, however, larger and more perfectly formed than natural. This bursa was lined by a synovial membrane continuous with that of the joint itself. The under part of the acromion presented a well-marked articular facet, and the coracoid process was tipped with enamel-like material. The long tendon of the biceps within the joint had disappeared altogether, but in the bicipital groove it had become firmly attached to the bone; the glenoid ligament, somewhat flattened, was thicker than natural. The cartilages tipping the bone were in some parts destroyed; in others they were thin, soft, and of a fibrous appearance. The articular extremities of the bones were partially absorbed, and in several places presented patches of enamel-like deposit; in the immediate neighbourhood of the joint these bones were studded with nodules of new bone. The synovial membrane lining the capsular ligament, as well as that of the bursa, was throughout thickly covered with long slender and beautifully marked fringes.

In both hips the bones in the immediate neighbourhood of the joints were thickly studded with small processes of new bone, the capsular ligament was somewhat thicker than natural; the acetabulum larger and deeper: the head of the femur shrunken, and its neck shorter and straighter; the articular cartilages were in some places softer and thinner, in others of a velvety appearance, and in others altogether destroyed, in some parts the osseous tissue was extensively absorbed, and in others presented the enamel-like material. The inner surface of the synovial membrane lining the articular ligament was covered throughout with vegetations exactly resembling those of the shoulder joints. The round ligament was in one hip completely destroyed, and in the other it was only partially so, about one third of it remaining.

The knee joint, extensively affected in a similar manner presented in its various tissues very much the same appearances as those described in the shoulder and hip joints. The articular cartilages were deeply furrowed.

Mr. P. Hewett regretted that he had no history of the case, the preparation having been taken from a woman, æt. 78, who was brought into the dissecting room.

Dr. **Quain** exhibited a specimen of

Obstruction, by Fibrinous Deposit, of the Left Subclavian and other Arteries of the Left Upper Extremity,

attended with gangrene of the hand and fore-arm, which occurred in a woman, æt. 52, but who looked much older, who was admitted into the Hospital for Consumption, under Dr. Theophilus Thompson, in September last, with well-marked symptoms of disease of the lungs. Several of her family had died of phthisis. In each cornea there existed a well-defined arcus senilis. She had been ill for fifteen months, but the case presented no peculiar features until the 15th of Dec. last, when she complained of numbness in the left arm. The following day this was accompanied by pain in the hand and fore-arm, and some lividity of the fingers. The discolouration continued from day to day; gangrene was fully established, and had extended, on the 8th of January, nearly half way up the fore-arm in front, and about three and a half inches above the wrist behind. Some doubt existed as to the pulsation in any of the arteries of the limb soon after the discolouration commenced. On the fifth day, pulsation was entirely absent, except at below the clavicle for the space of an inch, where a faint throbbing was felt. The temperature of the hand was at one time as low as 66° F. The pain was much relieved by the application of corded cotton and opium internally. There was not much constitutional disturbance: she died on the 11th of Jan.

Post-mortem.—The lungs presented the condition alluded to above. A portion of the aorta, including the arch and its primary branches, with the branches of the left subclavian as far as the palmar arch, were dissected out by Mr. Hunt. The venæ comites were considerably adherent to the arteries; the left vertebral artery arose from the aorta internal to the left subclavian. The arteries being laid open at intervals, a colourless roll of fibrin was observed from the origin of the subclavian extending along for about three inches, becoming pointed at its distal end. It was closely adherent to the aorta at one point, and less firmly adherent through the third of its extent to the subclavian. From the latter it could be removed without leaving any trace behind. When torn from its attachment to the aorta, a portion remained fixed; a coloured clot, connected with its proximate extremity, extended into, and closely filled, the left vertebral artery; the axillary artery was free to the origin of the circumflex, and here another coagulum had formed. This was pointed at both extremities, pale at these points, but coloured elsewhere; it occupied nearly two-thirds of the brachial; above the division of the brachial was another coloured coagulum, which extended to two or three inches below the elbow. The radial, ulnar, and interosseous arteries, contained very small coloured coagula; these coagula were more firmly adherent where branches were given off, than at other points; the coagulum at the elbow was more softened than the rest. No vascular connection was detected between the clots and the walls of the arteries; on the fore part of the aorta, opposite the origins of the left vertebral and subclavian, there was a patch of disease, its central point about the size of half a pea, was soft, and its surface on a level with the lining membrane; this softened spot was readily raised up, leaving a little cavity in the wall of the vessel. The soft substance consisted of aggregated granule cells, of fatty particles, and cholesterine; the walls of the cavity were calcareous, as also the coats of the vessel to the extent of two or three lines round it; the coats were also thickened to more than twice their natural state for more than an inch in diameter round the cavity, which was most evident close to the origins of the vertebral and subclavian; the orifice of the former was thereby considerably narrowed by it, and it was at one point of this change of structure that the clot was so firmly adherent. The thickening was in a great measure due to atheromatous degeneration, and this, by the microscope, was seen to depend on fatty degeneration of the circular fibres.

Dr. Quain believed that the disease in the aorta was the primary seat of mischief; that a small fragment of fibrin had become adherent to this, forming a nucleus, as would a foreign body in the vessels, on which further deposit occurred. He founded this view on the firmness of the adhesion here formed, and the greater apparent age of the coagulum.

Dr. Quain presented for Dr. Ayres a specimen of

Congenital Malformation of the Œsophagus.

It was taken from a child who was born Nov. 9th, 1850, after a natural labour. Some gurgling sounds were observed immediately after birth. The next day it was observed that the child was unable to swallow; when applied to the breast, or when food was attempted to be given, a loud gurgling sound was produced, accompanied by struggling, blueness of the lips, impending suffocation, which continued until the whole of the milk or food returned by the mouth. A bougie could be passed only a short distance below the pharynx, when it met with an obstruction to its further progress. The case was considered as one of congenital occlusion of the œsophagus, and it was suspected that the œsophagus communicated in some way with the trachea. The child died at the end of twelve days in a state of extreme emaciation, beef tea enemata having been administered several times a day. The autopsy showed that all the parts of the body and viscera were natural except the œsophagus and trachea. The pharyngeal part of the œsophagus, extending to about an inch below the pharynx, was considerably dilated, and terminated rather suddenly in a cul-de-sac; a narrow imperforate band of fibres extended downwards to the stomachal portion, which latter terminated above in a semilunar opening into the trachea, about half an inch above its bifurcation. In this case all the fluids taken into the stomach could pass no further than the cul-de-sac; while any secretions of the stomach could only find their exit to the mouth by passing through the trachea and larynx. The preparation, which is now in the Museum of the College of Surgeons, is probably unique; malformation of the œsophagus being extremely unfrequent.

MEDICAL SOCIETY OF LONDON.

February 1, 1851.

DR. J. R. BENNETT, PRESIDENT.

Discussion on Mr. Greenhalgh's Paper.

DR. **CRISP** inquired of Mr. Greenhalgh what form of the potassa fusa was employed, and whether precautions were taken to prevent the caustic from running over the neighbouring surfaces? Dr. Crisp observed that Dr. Simpson, of Edinburgh, always took care to wash away all traces of the potassa with diluted acetic acid.

Mr. **GREENHALGH** replied that every possible precaution had been taken. In the cases where he applied the caustic potass, he had covered the upper part of the vagina with lint soaked in dilute acetic acid.

Dr. **HENRY BENNETT** stated he could not allow Mr. Greenhalgh's paper to pass without noticing the somewhat astounding statement which it contained; namely, that he had examined 1000 patients with the speculum, and had only found evidence of disease of the cervix uteri in one-fifth,—that is, in 200. He could not have believed that a physician or surgeon could be so regardless of all feeling of propriety as to submit to a serious instrumental examination eight hundred females who had nothing the matter with them, had he not heard the admission himself.

In reality, the evidence of the existence or non-existence of disease of the neck of the uterus can be developed by oral inquiry with sufficient certainty to render useless examinations very rare in the hands of those who, to a moderate knowledge of female disease, add a due feeling of the very responsible position in which the medical attendant is placed in these cases. He had no hesitation in saying that it did not occur to him once in six months to make a useless examination,—that is, to make an instrumental examination in a case in which no disease exists. With reference to Mr. Greenhalgh's cases of the application of potassa fusa, he would merely remark that no cases of the kind had ever occurred to him, although he had used it, or seen it used, in very numerous instances. He attributed the untoward result in the patients mentioned to Mr. Greenhalgh's having most imprudently, most unjustifiably applied the potassa fusa to the cervix uteri when in a state of acute inflammation, whereas the chronic stage should be always waited for.

Dr. S. **BECK** entered into a long history of the speculum, and gave an account of the ancient use of the words "os uteri," and concluded by expressing his adhesion to Mr. Greenhalgh's views.

Dr. **MURPHY** expressed his surprise at some parts of Mr. Greenhalgh's paper; he could not but think there had been some mismanagement in respect of the caustic potassa. He had employed that remedy in a great number of cases, both within the wards of University College Hospital, and in his private practice, without ever meeting with the least accident from its use. Dr. Murphy added that, whether what he called ulceration existed in all instances where benefit had been derived from caustics or not, it was certain many forms of abnormal condition existed which required nitrate of silver or caustic potash for their cure.

Dr. **KING** said that, whilst he quite admitted the strongest necessity for careful consideration of the nature and history of the case before recourse should be had to the speculum, he could not but maintain it was a most valuable instrument in the hands of the practitioner. He had repeatedly, he might say, met with cases which had been under treatment for months, by injections and other half-measures, which had been restored to health and comfort by active local treatment through the speculum. In fact, Dr. King said, he could not understand on what ground the practitioner should persist in treating disease in the dark, when he had the means at his disposal for ascertaining its precise nature and extent. Dr. King had been in the habit of employing the speculum for many years, and from the immense advantage it gave him in the treatment of uterine disease, he would rather lay aside the stethoscope in the investigation of pulmonary complaints, than the speculum in the treatment of female diseases. Dr. King concluded by undertaking to prove to any sceptical Fellow of the Society the value of the instrument, by actual examination of a patient with him.

Mr. **HIRD** thought the profession much indebted to Mr. Greenhalgh for the manner in which he had given the result of his experience, and could not but admire the moral courage with which he had come forward. He believed that occasionally diseases of the cervix uteri might require the employment of the speculum. The uterus was particularly obnoxious to acrid secretions, but constitutional and the ordinary local treatment were in general sufficient to effect a cure. The speculum should not be resorted to until these means have failed. The examination by the finger was almost always quite enough to guide one's diagnosis.

The question concerning ulceration was comparatively of little practical importance.

There was certainly a condition which was much benefited by the application of nitrate of silver,—a remedy which he had always found of sufficient power. He had never been obliged to resort to the employment of caustic potass.

Dr. **Tilt** thought that, since there was no special pathology of the uterus, that mucous membrane, situated wherever it might be, was liable to the same diseases, the same *principles* of treatment applied in all cases.

In respect of the employment of potassa fusa, he did not think it could possibly be applicable in acute cases of inflammation, but there were chronic forms of disorder, where the nitrate of silver was of no use, in which this agent was of the greatest service.

Dr. **Henry Bennett** wished to state that, in the course of the discussion, various views had been attributed to him which he did not entertain, and had never expressed. For instance, he had been made to state that ulceration might precede inflammation, —an absurdity which he repudiated *in toto*. With reference to the use of potassa fusa, or potassa cum calce, it was a source of congratulation to him to be able to state that it was he who first introduced it to British practitioners in extreme cases of local disease of the cervix uteri, as a last resource; it was an invaluable remedy, although a most dangerous one when used without proper discrimination and judgment, as in the cases reported to the Society. He would take that opportunity of repeating, in the most emphatic manner, the challenge which he made last summer at the Medico-Chirurgical Society when Dr. Lee's paper was read,—a challenge which Dr. Lee and Dr. Ashwell, who supported his views, had never noticed, or even alluded to; viz. that he was ready to examine, before a competent authority, any number of cases presenting uterine symptoms, in any hospital or dispensary in London, and to abide by the result. All he wished was to establish truth.

Mr. **Greenhalgh** said the only object he had in bringing forward his paper was to lay before the Society, fairly and honestly, the conclusions his experience had led him to. Honesty was always the best policy, and upon that maxim he had acted. He greatly regretted the tone the discussion had taken.

Serious accidents had been said to have happened from the use of caustic potass; indeed, cases had come to his own knowledge where the caustic had been altogether misapplied. He quite admitted the necessity of using the speculum in some cases, but these cases were of very rare occurrence.

Mr. Greenhalgh read several quotations from Dr. Bennet's work on the Uterus, which, he considered, justified him in having made so large a number of examinations.

ROYAL INSTITUTION.

Feb. 7, 1851.

Metamorphosis and Metagenesis.

Professor Owen delivered a lecture on Metamorphosis and Metagenesis, in which, after describing the points of difference and of resemblance between plants and animals, he gave a popular exposition of his views of animal development, as expounded in his work on Parthenogenesis, which we reviewed at p. 385, vol. xlv. The difficulty of explaining this subject to a mixed audience, including ladies, was obvious, but was ably and elegantly surmounted by the lecturer.

ACADEMY OF MEDICINE, PARIS.

Jan. 28, 1851.

Treatment of Keratitis (Inflammation of the Cornea) by Scarification.

M. **Tavignot** transmitted a note, in which he observed that obliteration of the vessels is the only efficient treatment in interstitial inflammation of the cornea. To this end M. Tavignot divides the vessels at the edge of the cornea, in the direction of their length, involving the cornea itself in the incisions. The incisions are to be made obliquely, to avoid cutting through the cornea. The instrument employed is a cataract knife.

Strangulation of the Intestines.

Dr. **Parise** read an essay, in which he related cases of strangulation of the intestines by the appendix or diverticulum, which has been found to have been sufficiently long to form a knot, and of sufficient calibre to render it permanent. This knot may be double or single, according as one or two folds of intestine are implicated.

The author proposed to submit, on a future occasion, his mode of operating on the intestine by opening the abdomen in these cases.

Exaltation of the Sense of Hearing in Paralysis of the Facial Nerve.

M. **Landowzy** related two cases which further illustrated the points dwelt upon in his previous communication.

Intra-uterine Rickets.

M. **Depaul**, candidate for the vacant place in the Obstetric Section, addressed a memoir on the above disease of the osseous system, as developed during intra-uterine life.

The following principal points are among the author's conclusions:—The disease has the same point of departure as in extra-uterine life. There is a want of earthy matter in the bones. It is not dependent on disease of the nervous system. The health of the mother does not influence the disease. The cases which have been termed congenital fracture belong to this class.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Melanotic Growths in the Groin—Fæcal Abscess—Hæmatocele.

Richard Burns, ætat. 44, a short, stoutish man, with very red hair, admitted Dec. 8th. In the left hypochondriac region, just below the false ribs, is a vascular spot, about the size of a crown-piece; it is considerably raised in the centre, and the colour is of a mulberry hue. He has had a mole on that spot for many years, which about ten years ago increased slowly: five years ago it became painful and swollen, and about two years since it burst and bled a small quantity daily. In April 1850, he came to the hospital, and Mr. Ferguson looking upon it as a nævus, constricted the mass with threads, and in consequence the whole, or apparently the whole, sloughed off, and in due course of time the patient was dismissed. Soon after, however, the disease commenced to return, and continued to increase until it obtained the present size.

Independent of this, there is a subcutaneous tumor in the corresponding inguinal region; it is about the size of a pullet's egg, is hard, and moveable in all directions. He first observed this to arise soon after his dismissal from the hospital, and it has gradually increased in size ever since; he has no affection of the genital organs. He occasionally experiences pain in this tumor, which has the appearance of being an enlarged inguinal gland.

Dec. 14th.—Mr. Fergusson removed both diseased parts; first he dissected out the tumor in the inguinal region, and then took away with the knife the whole of the morbid mass above. The former was inclosed in a distinct cyst, and, when cut into, presented the usual appearances of well-marked melanotic deposit; and under the microscope the structure was found to be chiefly cellular, of a granular character, intermixed with some fibrous tissue, which, however, was in much less proportion than the cells. The central and raised portion of the spot removed above from the side was also clearly melanotic.

Mary Anne Goshawk, ætat. 45, married: a woman with dark hair and almost white eye-lashes: admitted Dec. 21, with a tumor in the right groin, situated just in its flexure; it is of considerable size, being about four inches in length by about two in breadth; its long axis is in the transverse direction; it is unattached to the skin, but not very moveable; is very hard, but not lobulated, and in the very centre there is a sensation as though there were fluid there. Two years ago, a small pendulous tumor, of a dark appearance, showed itself in the right side of the mons Veneris; it had a narrow pedicle by which it hung. No pain was experienced in it for five weeks, when the skin over it ulcerated, and a substance like dark sponge protruded; and there was an oozing from it for a week. As she could not stay the bleeding she applied to a surgeon, who placed a ligature around the neck of the tumor, but finding that it did not separate, he cut it off altogether with scissors; and shortly after this the skin around the cicatrix became discoloured, in a horse-shoe form. After this the patient experienced pains down the thigh and in the groin, and the present tumor, which is deeper and to the outer side of this dark-coloured mark, was noticed; hard, painful, of about the size of a marble; it remained stationary until February 1850, when it grew rapidly and continued to increase up to the present period. She has, for the last two or three months, been attending as an out-patient, under the care of Mr. Fergusson; but no diminution whatever of the tumor has taken place, and she was therefore admitted into the hospital for the purpose of having it removed.

On Jan. 18th, Mr. Fergusson proceeded most cautiously to the operation, first having made a preliminary puncture, so as to ascertain its real nature, as he was very uncertain about it: nothing but a bloody fluid escaped. A free incision was now made along the surface of the swelling, and the dissection was proceeded with, with great care, until the whole was removed. There was very free bleeding, and it was necessary to place a ligature upon four or five vessels, one of them of large size. The tumor, when cut into, presented a most beautiful and perfect specimen of melanotic disease: it was contained in a condensed cyst of cellular tissue, and at the inner margin it was attached to the neighbouring glands, one of which was removed with the tumor.

Both these cases have done well, and the interest attached to each of them is by no means slight. Melanotic tumors are not very frequently met with in any portion of the body, with the exception, perhaps, of the orbit; and it is perhaps a curious coincidence that two cases of this peculiar disease should be at the same time under treatment, and each of them resembling one another in no slight degree. The circumstances in both cases were such as to render the diagnosis as to the real nature of the tumors somewhat uncertain and difficult. In the case of Burns, the original disease appeared to be simply a vascular tumor, which is so frequently met with; and the ordinary means for destroying it were employed, but it returned with unusual rapidity, and presented an appearance somewhat different from its original aspect, for in its centre was a somewhat hard and dark-coloured tubercle, which was certainly not entirely vascular. Then, shortly after the first operation, the gland in the corresponding groin commenced to swell, and remained swollen and hard to an obstinate degree. It was not unlikely, therefore, that the latter was dependent in some way upon the former. If so, was the disease a simple glandular enlargement, or of a malignant nature corresponding with malignancy in the vascular mass above? Again, in the second instance, there was no possibility of forming a satisfactory diagnosis before operation. The tumor, indeed, was in such a situation, and of such a peculiar shape, and there was a certain softness about its centre, that it was thought that it possibly might be a hernia. It is but justice, however, to Mr. Luxton, the house-surgeon, who had carefully examined into the history of each of the cases, to state that he had formed a decided opinion that in the latter instance the tumor would be found to be of a melanotic character; and as to the first case, he considered that the tumor in the groin was in connection with the mass above, and was also of a malignant nature. It turned out that he was correct in both instances; and they tend to show the importance of carefully scrutinizing all the facts connected with the history of cases when there is a doubt as to whether or not any particular growth is of a malignant nature. In the first case, there could not be learned so much as in the second, although there was something to guide one; but there was more difficulty connected with it, as the mass which had been some months previously removed by the ligatures, was somewhat of the ordinary character of the cutaneous nævus; but the very rapid return of the disease, and the peculiar appearance of the raised central portion of it, lead to the suspicion that there was something more than a mere abnormal collection of vessels; and it was more easy to account for the development of the tumor in the groin on these grounds, for the lymphatic vessels, entering into the glands there, run a considerable way up the abdomen, and, therefore, if there were any malignant action in the part above, it was easy to understand that that malignancy would be propagated to the glands below; and such doubtless was the case. In the second case, the circumstances which led Mr. Luxton to form so correct a diagnosis were those of the appearance of a mass of a fungoid nature near the same spot some time previously, and the dark appearance of the skin above mentioned. It will be interesting to know the ultimate results of both these cases: it is to be hoped that the disease, now thoroughly extirpated by the knife, may not return in the same or another situation.

Fæcal Abscess.

Robert Belsey, ætat. 40, a baker, admitted into the hospital Nov. 28, for a supposed retention of urine. There was a large uniform tumor in the belly, very similar in shape and appearance to an enormously distended bladder rising to the umbilicus; there was general dulness all over the tumor, and it was painful when percussion was employed. The general condition of the patient was like that of a person suffering from some low fever or purulent disease; the countenance was anxious, and the face thin and slightly flushed; the tongue dry; pulse weak and rapid.

It appears that this man has occasionally suffered from the symptoms of stricture of a spasmodic character. About a week previous to admission, he had difficulty in passing his water, and on the 22nd, whilst seated at the water-closet, he felt something give way on his left side. This was followed by pains extending up the iliac region, which have continued ever since; and the belly swelled gradually. His medical attendant saw him, and considering the symptoms to be dependent upon a hindrance to the passage of the water, introduced a No. 3 catheter two days before his admission; drew off the water, but without diminishing the swelling of the abdomen. He was enabled to pass his water in small quantities by himself when admitted.

Mr. Fergusson attempted to pass an instrument into the bladder, but found he was unable to do so; and although there were some reasons to apprehend that the swelling was caused by a distended state of the bladder, yet there was not that urgency of symptoms, or distress of manner, which too surely indicates, when the patient at east is sensible, retention of urine. It was therefore deemed advisable not to interfere further, but to watch the case carefully. It was ascertained that the bowels had been well opened, and that the patient was enabled to pass water by his own efforts.—He was ordered to apply hot fomentations to the belly, and to take some Carbonate of Ammonia and Hyoscyamus.

Dec. 4th.—The swelling remains of the same size, but the veins over the abdomen are becoming enlarged; the patient can pass his water pretty well, and after this no diminution in size of the tumor takes place. It is very evident, therefore, at the present period, that the patient is not suffering from the effects of a distended bladder, but there must be some other cause for the tumor. Dr. Todd examined the man to-day, and thought that the intestines were matted together, and that some cyst had become developed.

12th.—For the last few days the centre of the swelling has become slightly more prominent than the rest, and the skin has become thinned over it to the extent of a crown-piece, and it has appeared as though matter were pointing there; and to-day Mr. Fergusson made a puncture into this, and let out a quantity of fluid of a horribly offensive smell: about eighty ounces escaped, and it was mixed with some pus; and some air escaped with it as well. The diagnosis was at once made that the case was that of an abscess connected with some portion of the intestinal canal. From this period the patient gradually declined in strength, and died Dec. 21st.

On post-mortem examination, the truth of the diagnosis last arrived at was found to be substantiated, for a large encysted abscess was found extending as high as the umbilicus, and as low downwards as the prostate gland, and wholly in front of the bladder; and it communicated, by a small rounded opening, with the descending portion of the colon. The bladder itself was much diseased,—very much contracted and thickened, and encrusted with phosphatic deposits to a considerable extent; but there was no decided stricture within the urethral canal.

There is in general a great deal of obscurity about tumors which have appeared suddenly within the abdomen, and it requires all the caution and tact of the practitioner to prevent him from forming an incorrect diagnosis, and from acting upon it. In the instance just narrated, there was considerable difficulty in estimating the correct nature of the swelling. The case had been treated before admission as retention of urine, and was sent into the Hospital as such, and at first sight, and before learning accurately the history of the patient's illness, it appeared in reality to be so. The uniform swelling at the lower part of the abdomen, and the dulness on percussion,—the fact of the patient having suffered from spasmodic stricture, and the difficulty experienced in introducing the catheter along the urethra,—told in favour of this supposition. But, on the other hand, urine could be passed, although in small quantities at a time. The catheter had been introduced two days before admission, and urine was drawn off without diminishing the size of the tumor; the patient had distinctly felt a sensation of something having suddenly given way within the belly, and there was that peculiar appearance about him which persons who are suffering from some purulent collection present; and, moreover, there was not that distress which would have been present, had the swelling been produced by a collection of urine. Consequently Mr. Fergusson was inclined to doubt about the symptoms being dependent upon any serious obstruction to the flow of urine, although he was unable to pass an instrument into the man's bladder. The question, then, was—What is the nature of the tumor? It must be one of three things:—a sudden effusion of fluid into the cavity of the peritoneum from subacute peritonitis; a rupture of some blood-vessel, and subsequent extravasation of blood; or, a collection of purulent matter. The history of the case forbade the idea of the first; it was, then, one of the two latter. But it did not look like internal bleeding, for the patient was not in the condition of one who had suffered, or was suffering, from hæmorrhage. Either the bleeding would be still going on,—in which case the man would be gradually getting blanched; or, if not going on, the blood would become absorbed, and the swelling diminish: but such was not the fact. The history of the case, and the general symptoms which showed themselves, pointed rather to some abscess recently formed, or bursting somewhere within the abdomen. Conjecture was, however, before long set at rest, by the appearance, in a few days, of the pointing at the centre of the tumor, and by the opening made with the knife. The whole case is chiefly interesting to show how very careful the surgeon should be before making up his mind as to the nature of abdominal swellings, especially when they occur suddenly, and when no very distinct and accurate history can be gleaned from the patient: for in this very case we believe that some might have been induced to have punctured the bladder, failing to introduce the catheter,—under the supposition that all the symptoms, local and general, were produced by an accumulation of water within that viscus. The important point, however, in favour of its not being so, was the absence of that terrible distress which usually attends complete retention, and a greatly distended bladder, although this may be absent in some cases. A short time ago we were called to a case where there had been retention for some days, from an enormously enlarged prostate. The bladder was greatly distended; but, when we visited the patient, he was so calm, and suffering so little pain, that it could hardly be conjectured that the bladder contained nearly two quarts of urine and blood, which was immediately drawn off by the catheter.

Hæmatocele.

Although hydrocele is an affection which is very commonly met with, and operations are being constantly performed by surgeons, either for the palliation or radical cure of the disease, it is not by any means often that a complication, as it may be termed, of the same disease is frequently seen. It is, perhaps, somewhat curious that it does not fall under notice more often, when it is taken into consideration that causes which convert an hydrocele into an hæmatocele not unfrequently exist or operate. Hydroceles are punctured every day, and patients carrying them are constantly exposed to violence. We have heard one surgeon, in very extensive hospital and private practice, make the remark about the rarity of hæmatocele, and state that he did not see more than about four cases in the course of a year. A case has lately been the subject of treatment in this hospital; and although there has been nothing very striking about it, and is merely related so as to illustrate the nature of the disease, and the plan of treatment which should be adopted in such cases, nevertheless there was some peculiarity connected with its origin, there not appearing to be any sufficient cause for it. In the generality of such cases hydrocele has previously existed, and some injury has been done to the scrotum, as by puncture or by violence, and blood is poured out into the cavity of the tunica vaginalis, constituting the disease. We cannot do better than quote from the lectures of Sir Astley Cooper on this point:—"There is one disease somewhat difficult to distinguish from hydrocele, viz. hæmatocele: this is a collection of blood in the tunica vaginalis testis, and produces in form an exactly similar tumor to hydrocele; but the history of the case is quite different, and your best guide. If you ask how it happened, the answer is—'Why, I was riding, when the horse became restive, began to plunge, and threw me forward on the pommel of the saddle; I soon afterwards discovered this swelling.' Then, if you inquire whether there were any marks or bruises in the skin of the scrotum, the answer will be—'Oh yes; it was black and blue.' Whenever you find a swelling thus suddenly formed after a blow, having the figure of a hydrocele, you may be certain of its being blood. But, gentlemen, guard against mistaking this complaint for diseased testicle. I was once present in the other hospital when a healthy testicle was removed owing to this error; and some years since, one of the first surgeons in this town, after having removed a tumor from the scrotum, and when the gentlemen were leaving the theatre, desired them to wait a moment, and he would show them the disease of the testicle. However, upon cutting the part open, the great bulk proved to be blood, and the testicle was in a perfectly sound state. Such an unfortunate occurrence as this a man must for ever lament." (p. 200.) We quote the whole of this passage, as it bears upon some points we shall refer to. It will be seen that Sir Astley insists particularly upon some local violence as the cause of hæmatocele; but in the instance we shall relate it would appear that there was no such cause for the disease.

Edward Enly, ætat. 50, admitted December 21, with a very large swelling of the scrotum, nearly the size of a man's head, uniform and smooth. It presents a dark appearance, as though the bulk of the tumor consisted of extravasated blood. About two years ago he states that the left testicle seemed to enlarge, and has continued to do so ever since, giving him no pain or inconvenience except from the size to which it attained. On the 19th, two days before his admission, he was suddenly awoke from sleep by an acute pain in the tumor; and on looking at the part he found that it was of a dark colour on the left side, as if it had been bruised. Next day it had increased, and the whole scrotum became as distended as when admitted. The swelling involved the left side, was hard but elastic, and not painful except at the lower and posterior part, and the skin was a great deal discoloured.

Mr. Fergusson examined the case, and considered that it was in all probability a large hæmatocele, and therefore made an incision into the body of the tumor through the tunica vaginalis, and a large quantity of coagulated and half-fluid blood was reached, and gradually evacuated. The tunica vaginalis was found to be greatly thickened, as is generally the case in such instances. Lint was placed in the wound. In a few days there was a free discharge of healthy pus from the wound. The cavity was gradually emptied, and although a smart attack of erysipelas came on, the wound granulated by the end of a month, and the scrotum diminished to its natural size: nevertheless, pneumonia, probably of an erysipelatous nature, set in, and defied all treatment; and the man died on the 28th of January.

Although this case unfortunately terminated fatally a month after the operation, from one of those accidents which will occasionally follow the use of the knife in any part of the body—for in all probability, if the erysipelas had not been set up, the inflammation of the lungs would not have occurred,—it illustrates the plan of treatment which should be adopted for a large hæmatocele; for the parts had subsided to nearly their natural size, and the wound had healed up. In recent and small hæmatoceles, the local application of stimulating lotions may cause absorption of the blood contained within the tunica vaginalis; but when the collection is great, and there is reason to suppose that the blood has become chiefly coagulated, it will be necessary to make a pretty free incision into the tumor, and turn the contents out.

As has been before stated, the cause of hæmatocele is generally some injury to the scrotum, or to the puncturing a hydrocele; but this case was somewhat singular, in not presenting any such adequate cause for its appearance. In all probability an hydrocele existed before; and it is not unlikely that some injury may have been received upon the part whilst the patient was asleep, or when he had not observed it. The absence of this might add a link to the chain of difficulties which sometimes present themselves in the diagnosis of a case of hæmatocele. Sir Astley Cooper has referred to two cases in which an hæmatocele was removed for a supposed diseased testicle. And that there is difficulty in the way of diagnosis in such cases is evident from the fact of the late Mr. Liston having committed the same mistake. We have had the unpleasantness of seeing this error fallen into on one occasion. Still this ought never to occur under any circumstances of difficulty whatever; for unless there is decided and positive proof that the testicle itself is really diseased, the surgeon should not proceed to remove the entire of that organ without first making a preliminary puncture; and when there is the slightest doubt as to its being disease of the testis, or hæmatocele, he is by no means justified in proceeding to its removal until he has made a small puncture with his knife into the body of the tumor,—a step which will readily set matters at rest.

Correspondence.

THE DIET OF PAUPER LUNATICS.

Sir,—In a review of my Reports on Cholera in the West Riding Asylum, in the Gazette of the 17th ult., you leave me open to a charge of inhumanity, against which I must beg leave to protest, and which I should have more promptly noticed, had leisure permitted: for the passage alluded to must be indistinctly worded if a moment's further consideration, and the perusal of another line beyond those quoted (at page 119), do not exonerate me from the imputation.

In the previous paragraph of the report a conviction is recorded "that it is highly desirable to place most of the patients recently admitted" (into a Lunatic Asylum) "on full diet, with *daily* rations of animal food," and it is expressed as "an open question whether *any*" (not "many" as your reviewer states) of those who had died during the preceding twenty years might have been saved, if a larger proportion of them had had a greater abundance of stimulating diet. And I may here observe, that as the extent and amount of extra diet awarded to the patients is left entirely to the discretion of the medical officers of the West Riding Asylum, your commentary on the "petty interference of laymen" is, as to this particular instance, inapplicable.

If, however, daily rations of animal food be necessary to many, the question naturally arises whether it may be beneficial to all: granting that one-third, or one-half the patients require daily meat dinners, is it requisite or desirable to incur the additional cost of £400 or £500 per annum to give the remaining one-half, or two-thirds, similarly full diet? If they need it, the cost would be a secondary consideration, and comparatively of little moment; if they do not, it is that amount wasted: and it is the object of an extended note on the Asylum dietary in my appendix, referred to in the paragraph in question, to show that the patients on common diet have as much as they can eat, and as much as keeps them in good condition and in general good health. Assuming this to be proved, then the reply is given on which the gravamen of the charge against me is founded, and which you must permit me to repeat, both for the sake of adding another sentence to the quotation, and in order to transfer the italics you assign it, to what appears to me the more important part of the argument, viz., that which you have omitted.

"But it may be said—Why not improve

the dietary of the whole, and give them all daily meat dinners? To which I would reply, that there are other interests to be thought of besides those of the poor lunatics; and, though their welfare is our immediate and first consideration, yet, when that is as far as possible secured, we are bound to have regard to the rate-payers who furnish the means for their support. *The present scale of diet appears abundant for the healthy sustenance of ordinary and chronic cases, and therefore it is unnecessary to increase the general expenditure by adding to their already sufficient fare: but for recent and exhausted patients, if* [when] *a generally more nutritious diet is required, I feel convinced it will not be begrudged either by those who control or those who contribute the funds needful for providing it.*"—Reports, p. 39-40.

Thanking you for your in other respects gratifying notice of my inquiry,

I remain, sir,
Yours obliged,
J. G. WRIGHT.

Wakefield, Feb. 3, 1851.

[I do not see that Dr. Wright's letter at all affects the remark made upon *that one passage*. No imputation of inhumanity was intended to be thrown on Dr. Wright. The report is allowed to be very full and satisfactory with reference to the dietary *required* by the insane. If diet of any extent of fulness be required, Dr. Wright says it might be had without grudging. If the diet, then, that has been given has been sufficient, where was the need for the question which gave rise to my remarks?—REVIEWER MED. GAZ.]

Medical Intelligence.

POOR-LAW MEDICAL RELIEF. INTERVIEW OF A DEPUTATION OF POOR-LAW MEDICAL OFFICERS WITH LORD JOHN RUSSELL.

ON Friday the 31st ult., a deputation from the Convention of the Poor-Law Medical Officers had an interview with Lord John Russell, with reference to the evils of the present system of medical relief to the sick poor, at which Sir George Grey was present.

The deputation, which was accompanied by General Sir De Lacy Evans, M.P.; Jacob Bell, Esq., M.P.; Dr. Wilson, Senior Physician of St. George's Hospital; Thomas Hunt, Esq., representative of the Provincial Medical Association; James Stedman, Esq., Vice-President of the National Institute of Medicine, Surgery, and Midwifery,—consisted of Dr. Hodgkin, the Chairman of the Committee; Dr. Bainbridge, Messrs. W. Lobb, J. Liddle, E. White, W. Cantrell, of Wirksworth, Derby; Peter Martin, Reigate; E. Boulger, Bletchingly; G. Ross, J. T. Mitchell, Dr. Barnett, and Charles F. J. Lord, the Honorary Secretary.

The deputation having been introduced by the Chairman, the Honorary Secretary read the memorial, which set forth the evils of the present system, and showed that the three thousand poor-law medical officers who administered relief to nearly three millions of the suffering poor in England and Wales, were so insufficiently paid, that the cost of drugs alone was, in many cases, barely met by the salary. The average rate of payment for each case of sickness, as ascertained from 805 returns from Officers of Unions, is 1s. 6¾d. for metropolitan districts, and 2s. 7d. for country districts; whereas the cost of drugs, for dispensary cases, amounts to 2s. 1½d., and for hospital cases, 4s. 4½d. It further stated, that the burthens which have been imposed on union surgeons, through the regulations of the General Board of Health, under orders from the Poor-Law Board and Guardians, while no provision existed to secure extra payment for these important services, were of a distinct character from those imposed on them by their contracts with the Board of Guardians. In illustration of the evils of the present system, special allusion was made to the case of "Hyet *v.* the Cheltenham Board of Guardians," in which Mr. Justice Patteson, in his address to the jury, stated that "the medical officers of unions were the hardest worked and worst paid class of officers in the kingdom." The memorial concluded by suggesting, for the amendment of the system, the following principles:—1st.—Permanance of office during competency and good conduct. 2nd.—Remuneration proportioned to the extent and nature of duties. 3rd.—Responsibility to professional authority under medical inspectors; and praying his lordship to introduce a Bill into Parliament embodying these provisions.

Mr. Boulger, of Bletchingly, represented "That the uncertain tenure of office appeared to be greatly detrimental to the due discharge of the duties of the medical officers of the poor law districts. That medical officers were often prevented from acting conscientiously towards their patients, through fear of incurring the displeasure of their employers, the guardians. That the medical profession was not more venal than any other body of men, and that if the appointment of a medical officer was made to endure *quamdiu se bene gesserit*, such an arrangement would redound no less to the benefit of the poor, than to the honour and advantage of the medical profession. Mr. Boulger mentioned, that in his own neighbourhood a medical officer had been removed without cause, and without a moment's notice, by the guardians, who elected a person in his stead, whom they subsequently deemed inefficient. The guardians in a few months stultified themselves by re-electing their former medical officer. Such circumstances and changes must be fraught not only with discomfort, but with actual injury to the poor."

In reply to a question by Sir George Grey, Mr. Boulger apprehended that the decision as to the competency or incompetency of a medical officer would rest with the proposed medical inspectors.

Mr. Cantrell, of Wirksworth, Derbyshire, stated that he represented the opinions of a great number of medical officers in Derbyshire, and had had much experience of poor-law medical practice, having been a parish surgeon before the passing of the present law, after which he acted as guardian for two years, and had ever since been a medical officer of an extensive poor-law district; that he considered the remuneration was both unequal and inadequate, and suggested that the mode of payment should be based on the population, extent, and poverty of the districts, which could be easily ascertained. He objected to a payment per case, as it would act injuriously to the poor, as disease would become fixed and death often occur before an order would be obtained, if it involved an extra fee; to show which he stated that, since he had become medical officer, he had never received more than six orders to attend labourers, because it involved an extra fee. He also referred to the advantage of having medical inspectors.

Sir George Grey asked the deputation with whom they intended that the power of electing and appointing the medical officer should rest. Lord John Russell also desired to know whether it was proposed that the entire expense of medical relief should be discharged through the consolidated fund?

The Honorary Secretary stated, in reply to both these questions, that, as half of the expense was already paid by the Government, it was deemed desirable that the entire cost should be derived from the same source: it had been suggested, however, that the cost of drugs should be met by the poor-rates. It was proposed that the guardians should still have the power of nominating their medical officers, but that the Government should appoint the medical inspectors.

Mr. Liddle stated that he had had sixteen years' experience of the working of that part of the poor-law which related to medical relief, and he could confidently affirm that it required great alteration and amendment. He would, however, only direct his lordship's attention to the necessity which existed for appointing medical inspectors. At present the medical officers of unions were under the entire management and control of the Boards of Guardians, to whom they had to make weekly reports, but which reports were seldom, if ever, looked at by the guardians, or, if they were, the guardians could not understand them: they were, therefore, useless: but if such reports were submitted to a medical inspector, much benefit would accrue, not only to the medical profession, but to the public at large, as the medical inspector would be able to make most valuable statistical returns, which would materially tend to the advancement of science and the physical improvement of the people. The labour which was now imposed upon medical officers, in compelling them to keep useless books, was extremely onerous and burdensome. Secondly, it often happened that sanitary duties, and very properly so, were imposed upon the medical officers; but, under the existing arrangement, it was impossible they could conscientiously do their duty to the public if they were very desirous of keeping their appointments, for it frequently happened that much property in poor neighbourhoods belonged to individual members of the Board of Guardians, and which was in such a bad sanitary condition that it was positively injurious to the health of the neighbourhood: but the medical officer dared not report it to the Board, for fear of losing his appointment. Thirdly, disputes often arose between the medical officer and the patient, which of course were referred to the Board of Guardians; but the Guardians were altogether unable to come to a satisfactory decision upon the subject in dispute, not understanding the nature of the case. The matter was then sometimes referred to the Poor-Law Board, who (from there not being a medical man in that department) were just as incompetent to form a correct judgment of the matter in dispute. For these and other reasons which might be adduced, if time permitted, Mr. Liddle pressed upon the attention of Lord John Russell the advantage to be derived from assimilating the civil service in the department of medical poor-law to that of the army and navy.

Mr. Hunt, of Bedford Square, said that he had the honour to represent the Provincial Medical and Surgical Association, consisting of about twelve hundred members of the profession, residing in various counties of England and Wales. This Association was accustomed to meet annually in large numbers. Many of the members were poor-law medical officers, and the subject of the medical administration of the poor-law had frequently been discussed, and, after careful consideration, the Association had petitioned Parliament on the subject. In this large body of practitioners, Mr. Hunt believed there was unanimity of opinion on the subject of the memorial now presented to his Lordship, in the petition of which they cordially concurred. They especially felt the necessity of medical inspection, and the injustice of non-medical guardians deciding upon questions of medical competency and services.

Mr. Stedman, of Guilford, stated that in his capacity of Vice-President of the National Institute of Medicine, Surgery, and Midwifery, he was constantly in the habit of hearing from the numerous members of the Institute and National Association, that one of the great grievances of the profession was the unsatisfactory way in which the medical officers of Unions held their appointments, and the very insufficient remuneration they received from the Boards of Guardians. That a medical inspector would prove acceptable to the profession, as a medium for regulating the payments to the medical officer, and as a general referee to whom all medical questions might be referred. He also directed the attention of his Lordship to the difference of the amount paid for medical attendance on prisoners, and on the poor.

Sir George Grey was under the impression, that the medical officers of prisons devoted their whole time to the prisoners.

Mr. Stedman stated, that the surgeon to the Guilford House of Correction received a salary of more than double the sum given to the surgeon of the Union House, the inmates of the prison being numerically fewer, and that the gentlemen holding those appointments were both engaged in general practice.

Jacob Bell, Esq., M.P., stated, that that having been many years a guardian, he could testify to the defects of the present system, one of which was the very inadequate remuneration afforded to the medical officers; another was the absence of medical authority in regulating their duties, and supervising the whole administration of medical relief to the poor. He entirely concurred with the principles of the memorial, and was anxious to further its objects.

Dr. J. Arthur Wilson said that, although unexpectedly called on, he should have great satisfaction in supporting the memorial of the medical officers of Unions. He was pained and surprised that nearly three thousand gentlemen of education, the physicians of the poor, for they were called on to conduct the most important cases, both in medicine and surgery, should be subjected to such treatment as was described in the memorial. He had observed, in a periodical of last week, two cases which struck him as shocking in a country like ours. At Bury, an inquest had been held on a poor man, aged seventy-one, who had fractured his thigh, and who died in consequence of bed-sores, the guardians having obstinately refused to supply for his use, as requested by the medical officers, either a water-bed, or one of Hooper's water-cushions. At the inquest the guardians attempted to transfer the blame to the medical officer, by alleging that the sufferer died from improper medical treatment; the jury, however, by their verdict, fixed the blame of neglect and cruelty on the Board of Guardians, who ought to have supplied every appliance considered necessary by competent medical authority. After mentioning an analogous case at Southampton, Dr. Wilson went on to say, that such examples, which were unfortunately too common, proved the absolute necessity of an intermediate authority, which should possess the requisite professional knowledge to direct guardians in doubtful points respecting medical matters. Dr. Wilson in strong terms expressed his sense of the injury done to society by the occurrence of such incidents as those above related, and said that he believed the mind of the medical profession in London was aroused to the evils of the present system, and to the stigma cast upon it by the treatment to which so large a section of the profession was subjected. As physician of an hospital, he knew the poor, and he knew that, in sickness especially, it was unwise and ungenerous to afford them medical aid in a way which might not be agreeable to their sympathies, rendered keen under pain and affliction. After what he had heard to-day, he should advise medical pupils, of whom he had seen successive generations, to avoid contact with Boards of Guardians. They should be always ready to afford aid to the sufferer, whoever might apply; but, if they valued their comfort and respectability, they must be careful how they accepted medical appointments under the Poor-Law.

Sir De Lacy Evans said that, as he was with one exception a non-professional person, he might be excused for offering a few observations to his lordship. He felt the importance of a question which involved proper medical attendance upon 3,000,000 of the poor in the hour of sickness. He first, however, wished to correct an omission in the memorial, which stated that the Poor-Law Board had ordered a reduction of salary only in two cases to the medical officer contrary and in direct opposition to the votes of the guardians: he alluded to the case of St. Martin-in-the-Fields, Westminster, as another similar instance in which the Poor-Law Board had, against repeated applications and unanimous votes of the guardians, enforced a reduction of the salary of the medical officer of the workhouse. Perhaps it might arise from his military education; but it appeared to him a great anomaly that there should not be some reference to medical authority in this civil service (which concerned 3000 medical gentlemen) as there was in the army and navy. It struck him also as remarkable, that there should be so great a contrast between the payments made to the medical officers of prisons and those who attended the poor. It appeared that in many instances the payment to medical officers of prisons was five, six, and seven times greater than that given to poor-law medical officers.

Sir George Grey observed that those appointments were made by magistrates, and that the whole of the time of the officer was given to those duties. This was immediately met by several of the deputation asserting that those officers practised generally as well as attended the prisons.

Mr. White stated that he was a medical officer of one of the Unions alluded to, in which the Poor-Law Board had recommended a lower remuneration for services than that submitted for their confirmation by the guardians. In his Union there were three medical officers; their cases averaged 9000 annually, for which they received £465 per annum, or about one shilling per case; the guardians, after refusing any remuneration for attending cases of cholera in 1849, determined on adding another medical officer, although no complaint was alleged against the old ones, thus taking off one-third of their salaries: and the *four* now received £65 a year less than had been paid to the *three*. In making these remarks he wished to do justice to a large portion of the Board of Guardians, as these changes were effected by small majorities of one and two only, and a protest was entered on the minutes by the chairman and a large number of the Board against this injustice to the medical officers. The medical officers obtained an interview with the Poor-Law Board, who, upon further consideration, recommended an increased allowance, *but still less than that first suggested by the guardians.*

Lord John Russell having courteously and attentively listened to the facts and suggestions set forth in the memorial, and to the remarks of the deputation in support of them, stated that he had had much communication with the late President of the Poor-Law Board, Mr. Charles Buller, and lately with Mr. Baines, on this subject; that the question was surrounded with difficulties, financial and otherwise: he would, however, speedily communicate with Mr. Baines with reference thereto.

The Hon. Secretary, in thanking the Premier for the lengthened audience his lordship had given to the deputation, trusted that his lordship would not allow them to depart without an assurance that the subject should meet with remedial legislation. He presumed to press this the more, as a mass of evidence in favour of such redress was collected by the Parliamentary Committee in 1844; and also, as the question had been constantly agitated by the Convention for more than three years; and furthermore, as they had been on former occasions assured by Government and the Poor-Law Board that it should be speedily considered in relation to an amended law on the subject.

His lordship again promised that he would specially communicate with the President of the Poor-Law Board with reference to the objects sought by the deputation.

The deputation then withdrew.

THE HUNTERIAN ORATION.

We are informed that there will be no Hunterian oration this year. The gentleman appointed to deliver it, Mr. R. A. Stafford, is unable, from severe indisposition, to undertake the duty.

THE FOTHERGILLIAN GOLD MEDAL.

It is with great satisfaction we announce that the Fothergillian Gold Medal has just been awarded by the Medical Society of London to Dr. R. P. Cotton, Assistant-Physician to the Hospital for Consumption, for his Essay on Phthisis. It will be remembered that Dr. Cotton published in this journal for 1849 six clinical lectures on the Physical Diagnosis of Phthisis. We now take the opportunity of announcing that these are about to be republished in a separate form.

GOVERNMENT DONATIONS FOR THE PURPOSES OF SCIENCE.

We lately announced that Government had presented to the Royal Society a donation of one thousand pounds, to aid the progress of science. A similar donation is about to be made to the Royal Society of Edinburgh for scientific purposes.

THE ARMY MEDICAL DEPARTMENT.

Dr. Andrew Smith has been appointed to succeed Sir James M'Grigor as Director-General of the Army Medical Department. The salary attached to the office has been reduced from £2000 to £1200 per annum.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 7th inst.:—Messrs. F. F. Ormond—P. H. Tribe—C. M. D. Lempriere—P. W. Bullock—W. S. Whylock—E. C. Cornelius—D. MacCallum.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 6th February, 1851:—Francis Thomas Van Hemert, Frodingham, Lincolnshire—William Jay Williams, Manchester.

OBITUARY.

DR. MACKNESS.

On the 8th instant, at Wellington Square, Hastings, after a short illness, James Mackness, M.D., aged forty-six.

Dr. Mackness is well known to the profession by his essay on the Moral Aspects of Medical Life, and other contributions to medical literature.

RALPH FLETCHER, ESQ.

On the 8th inst., at his residence, Gloucester, aged seventy, Ralph Fletcher, Esq., for many years surgeon, and late consulting surgeon, to the Gloucester General Hospital.

Selections from Journals.

POISONING BY SULPHATE OF IRON.

Le Sieur Matet returned home one Thursday evening carrying a bundle of wood: from the time that his wife shut the door of their house she refused to open it to any one, despite the demands of the neighbours who were attracted thither by cries. At an early hour on Sunday morning this woman called for help; the neighbours arrived, and found Matet dead in his bed. As the quarrels in this house, and the ill-temper of the wife were matter of notoriety, the authorities were immediately informed of the sudden death of the husband. It was then found that the wife had been engaged during the night in washing a large quantity of linen. She stated that her husband had complained of pain in the side, in consequence of which he had died.

The autopsy discovered, beside some slight lesions of the digestive canal, adhesions of the pleura, and softening of the lung. The organs ordinarily removed in such cases were taken possession of by the police, also some pieces of bedding stained with fæcal matter. At the same time there were transmitted for analysis a bottle containing about two glasses of water and some bread, a half bottle of wine, and a small packet containing a white powder.

Some days afterwards the following report was forwarded by Dr. Ancessy and Dr. Limouzin-Lamothe.

Arsenic was sought for in the liver without success.

About a fourth part of the stomach, a portion of its liquid contents and of those of the small intestines, were then carbonized by strong sulphuric acid. This fluid was carefully distilled in a glass retort. After about three hours' careful distillation, the body of the retort was separated from the neck by a file. The distilled fluid and the residue were examined for arsenic, without any result.

The other portions were subjected to various tests. Hydrosulphuric acid at first produced no effect, but on neutralizing the nitric and sulphuric acids by ammonia, an abundant black precipitate was produced. A portion of the fluid being tested with a solution of ferro-cyanuret of potassium, gave a blue precipitate. Gallic acid produced a dark blue colour. The tests for copper, silver, or lead, gave no results.

It was obvious from the quantity of precipitate that the iron here present was not derived from the blood, but had been taken internally.

In order to fix precisely the manner in which the iron had been introduced, a portion of lung was treated with nitric acid. The resulting carbon was washed in water, and the liquid concentrated. Treated successively with hydrosulphuric acid, gallic acid, and ferro-cyanuret of potassium, its colour was deepened, a precipitate being thrown down in a few hours. For the sake of comparison, a larger quantity of human blood was treated in the same way, and gave less striking results.

Half the pieces of bedding stained with fæcal matter were boiled in distilled water, and the filtered fluid was tested. The other portions were treated with nitric acid, and carbonized. These, tested for iron, gave abundant precipitates. Sulphuric acid was not detected in the matters removed from the stomach and intestines. It was, however, abundantly found in the fæcal matters.

A flask containing matters that had been vomited having been transmitted for analysis, they were carbonized by nitric acid, and treated in the same manner as the preceding. The sulphate of iron was therein detected.

The packet of white powder consisted of flour. The bottle of wine contained no foreign or poisonous substance.

It was therefore inferred that sulphate of iron had been administered during life. But as great diversity of opinion existed on the poisonous properties of sulphate of iron, the jury, while finding the accused guilty, recommended her to the mercy of the President of the Republic.—*Journal de Chimie Médicale*, 1850.

⁂ We cannot compliment the medical jurists upon the manner in which this case was investigated. They appear to have stumbled upon the results. Admitting that they clearly and distinctly found sulphate of iron in the viscera, there is no proof that it caused death. The use of this salt for criminal purposes appears to be not unfrequent in France. See MEDICAL GAZETTE, vol. xlv. page 640.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

Southern Medical Reports. By E. D. Fenner, M.D. Vol. 1. New York, 1850. London: Thomas Delf.

Cheltenham and its Resources, &c. By Edwin Lee.

The Transactions of the American Medical Association. Vol. III. Philadelphia, 1850.

The American (Quarterly) Journal of the Medical Sciences. Edited by Isaac Hays, M.D. &c. January 1851.

Pharmaceutical Journal. February 1851.

Traité des Maladies de Plomb ou Saturnines. Par L. Tanquerel des Planches. Tomes 1 et 2.

Comptes Rendus. Nos. 2, 3 et 4—15 à 27 Janvier 1851.

Journal de Chimie Médicale. No. 2; Février 1851.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, **Feb. 8.**

BIRTHS.		DEATHS.	
Males....	848	Males....	564
Females..	756	Females..	545
	1604		1109

CAUSES OF DEATH.

ALL CAUSES	1109
SPECIFIED CAUSES	1103
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	207
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	53
2. Brain, Spinal Marrow, Nerves, and Senses	117
4. Heart and Bloodvessels..........	50
5. Lungs and organs of Respiration	253
6. Stomach, Liver, &c.	62
7. Diseases of the Kidneys, &c.	7
8. Childbirth, Diseases of Uterus, &c.	8
9. Rheumatism, Diseases of Bones, Joints, &c.	11
10. Skin........................	1
11. Premature Birth	9
12. Old Age	58
13. Sudden Deaths..................	5
14. Violence, Privation, Cold, &c....	42

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	25	Convulsions..........	25
Measles............	27	Bronchitis	117
Scarlatina	15	Pneumonia	[illegible]
Hooping-cough	59	Phthisis	113
Diarrhœa..........	16	Lungs	[illegible]
Cholera............	0	Teething	[illegible]
Typhus............	34	Stomach	[illegible]
Dropsy	16	Liver..............	[illegible]
Hydrocephalus	40		
Apoplexy	25	Childbirth	[illegible]
Paralysis	19	Uterus	[illegible]

REMARKS.—The total number of deaths was 46 *above* the average mortality of the 6th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·7
„ „ „ Thermometer[a] ...... 40·5
Self-registering do.[b] .... Max. 55·5 Min. 26·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·39.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 2°.5 *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. G. Perfect.—The subject will not be noticed until we have a full and authentic report.

Dr. Inman's letter will be inserted.

A Student.—We are happy to inform our correspondent that we have reason to know that the work, respecting the completion of which he is so anxious, is in a very forward state, and cannot be delayed much longer.

The papers of Dr. Ormerod, Dr. Tilt, Mr. Swan, and Mr. Holden, next week.

Communications have been received from Mr. Richardson and Dr. Thompson.

We are obliged to Mr. R. P. Slater for the ticket.

Lectures.

CLINICAL LECTURE
ON THE SEQUEL OF
A CASE OF PNEUMO-THORAX,
AND
ON THE PULSE.

(*Delivered at King's College Hospital.*)

BY R. B. TODD, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. SALTER, M.B., Dem. Anat. K.C.L.]

LECTURE XIX.*

Case of Pneumo-thorax, continued from last Lecture—Post-mortem examination—Lung solidified by tubercles—very small aperture—Comparison of the post-mortem results with signs and symptoms during life.

ON THE PULSE—*Importance of educating the touch—The pulse—how produced—how modified—Elastic reaction of the arteries—Rhythm of the pulse—how it agrees with, and how it may differ from, that of the heart.*

IN to-day's Lecture, gentlemen, I must first call your attention to the termination of the case of *Pneumo-thorax*, upon which I addressed you when we last met.

You will remember the patient Thomas Thompson, and the diagnosis at which we arrived,—that he was suffering from the presence of air in the pleura, due to the rupture of a softened deposit of tubercular matter immediately beneath the pulmonary pleura of the right lung, or possibly of two or three similarly softened deposits. We had also satisfied ourselves that the inferior lobe of the right lung was solidified by tubercular deposition, or by chronic pneumonia, or from both causes; the chronic inflammation being consequent upon the former and surrounding the tubercular deposits.

Our patient did not survive many days after we last met in this theatre. He sank gradually, exhausted by dyspnœa, and cough, and fever. The physical signs did not undergo any very material change: the quantity of air in the chest did not increase; but the right side continued tympanitic, as before, but rather less so; the amphoric resonance remained, but also diminished in intensity; and the breathing at the left side was puerile, with some degree of roughness and prolonged expiration. No evidence of the presence of fluid in the right pleura showed itself at any period.

Thompson died on the 11th December, exactly seventeen days from the first appearance of air in the pleural cavity; and we had the opportunity of examining the body on the following day. The quantity of air in the right pleura had evidently diminished very considerably, as percussion elicited a sound much less tympanitic than before death; and, on puncturing one of the intercostal spaces there was no perceptible escape of air.

When the thorax was opened, we found the left lung healthy in its greatest portion, but several tubercles were scattered throughout. The whole of the inferior lobe of the right lung was perfectly solid; the middle and upper lobes retaining their natural state, but containing some scattered tubercles.

The inferior lobe was rendered solid by the infiltration of tubercular matter, and by grey hepatization around accumulations of tubercle. Many of these masses of tubercular deposit were situate immediately beneath the pulmonary pleura, and seemed to be separated from the pleural cavity only by the most delicate film of membrane. It was obvious that it must have been by the giving way of one of these films that the air made its way into the cavity; but, on examining the surface of the consolidated lung, no opening could be discovered, and it was not until we placed the lung under water, and blew air into the bronchial tubes, that we found it to escape through a very small opening, situate on the inferior concave surface of the lung, just over the diaphragm.

It is very possible, and even probable, from the superficial position of many of the tubercular deposits, that another opening may have existed during life for a short time, and may have been plugged up by the tubercular matter. The loudness of the amphoric blowing led me, at one time, to suspect that a very large opening existed, through which also a free egress of air took place in expiration. But the bronchial breathing in the solidified lung, taking place behind a stratum of air in the pleura, would produce a loud amphoric resonance even although no opening existed; and would necessarily increase the intensity of the amphoric resonance, which proceed from the escape of air at the same time through one or more openings.

What seems, then, the true explanation of the phenomena of this case is this: that the lowest lobe of the right lung was solidified by tubercular infiltration and chronic pneumonia. This we had prognosticated,—that one or more perforations of the pulmonary pleura had taken place, through which air passed into the pleural cavity. To this, you will remember, we attributed the sudden occurrence of a tympanitic state, where dulness on percussion had existed previously. Only one opening, and that a very small one, remained after death: probably it had, at first, been larger, and became encroached upon by fresh deposition; and by the same means any other opening which may have existed may have been plugged up. The diminution of the opening explains the cessation of any increase of air in the pleura after some days, and the stationary nature of the signs and symptoms; while the persistence of air in the pleura—even of a thin stratum—explains the persistence of the tympanitic state and of the amphoric resonance.

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* This lecture was given in the winter session of 1850.

There was a remarkable circumstance connected with this case which I ought to have noticed in my last lecture. It was this:—that the tympanitic state never, even when the patient was sitting up, extended beyond the region of the inferior lobe. This phenomenon we explained during life on the supposition that adhesions existed between the two pleuræ, above the level of the tympanitic sound, which formed a partition between the upper and lower portions of the cavity, and confined the air to its lower part.

We found that a broad band of old adhesion did stretch from the inferior margin of the middle lobe of the lung to the costal pleura, but that this band was not of sufficient extent to form a perfect septum, but would effectually prevent the separation of the surface of the lung from the inner surface of the chest. I cannot doubt that this adhesion, although far from forming a complete septum, did prevent the ascent of the air by maintaining the close contact of the costal and pulmonary pleuræ.

You will ask, how I explain the small quantity of air in the pleural cavity after death. I explain it in this way,—that it is most probable that, from the feebleness of the patient, as well as from the diminution of the aperture, very little, or no air, passed into the pleura during the last few days of life: the air previously existing was absorbed, so that after death it had altogether disappeared.

We did not expect to find fluid in the cavity of the pleura, as no metallic tinkling existed, although both voice and breathing were decidedly metallic, the former sometimes ringing; and so we found it, for no fluid did exist in the pleura; but the surface of the solidified lung was sufficiently moist.

I must now proceed to a very different subject, in order to fulfil a promise made to some of you, that I would give one or two lectures on the Pulse in a practical point of view, and illustrate my remarks by reference to such cases in the hospital as may seem appropriate for that purpose.

It would be difficult to select a subject more worthy of your attentive consideration. It is at once elementary and fundamental; and although every tyro thinks himself qualified to *feel* a pulse, he will, if true to himself, soon find out that it requires much knowledge, tact, experience, and judgment, to interpret what the finger communicates to the mind.

So important has the pulse been considered, at all periods of the history of medicine, for diagnosis, for prognosis, and as a guide in treatment, that, in the examination of a patient, the feeling of the pulse is, with the practitioner, almost an instinctive act; and a sick person coming to a physician is apt to imagine that his case has only been half investigated if the doctor has omitted to feel his pulse: and many think—such is the wisdom displayed in the doctor's face while performing this all-important act—that, by the touch applied to the beating radial artery, medical men can learn a vast deal about their patients.

And, no doubt, great help is obtained in practice from the pulse; beyond all question, one experienced in feeling pulses gains an insight, not only into the particular malady, but also into the constitution of his patient. In certain classes of maladies this is particularly important,—in fevers, the exanthemata, internal inflammations, heart affections, phthisis: therefore it behoves you to educate your touch, to acquire the "tactus eruditus," and you will find it hereafter often to serve you a good turn, and your patient a better.

In examining the pulse, there are two points of inquiry—

1st. Its quality.

2d. Its number.

I enumerate these in the order of their practical importance: both are important, but *quality* infinitely the more so. Quality is the less fallacious. The number affords a less certain guide, because it is often affected by emotion, posture, exertion, and various extraneous agencies; whereas *quality* is comparatively but little affected by external circumstances.

Now, in educating your sense of touch—(and here let me remark that you cannot expect to learn much by merely hearing me speak: after hearing, you must feel—you must make your knowledge of the pulse, like all other useful knowledge, the result of accumulated personal experience—you must educate your finger in the same manner as you would educate your ear in auscultation)—in thus educating your sense of touch, I say, you must see that you go on a right foundation—that you understand the true doctrine of the mode of production of the pulse and its laws.

I propose, therefore, in the first place, to give you a brief explanation of the mode of production of the pulse, and the influence and share which its different elements have in modifying it.

The phenomenon of the pulse is due to the manner in which the blood is pumped into the arteries in successive portions (not in a continuous stream) by the rhythmical action of the heart; and it is influenced materially in its quality by the yielding and elastic nature of the arterial walls.

At every systole the heart propels a certain quantity of blood into the aorta; but this vessel is already full: it can, therefore, only receive this new supply by discharging a certain portion at its distal extremity, or by dilating, so as to make room for the quantity. In fact, it is by both these means that room is found for the reception of each new supply from the great central pump of the circulation. Blood is ever flowing out of the peripheral portion of the arterial system into the capillaries and veins; but, inasmuch as it does not flow out with the same readiness, and in the same quantity, as it is pumped in, the arteries undergo a dilatation which is proportionate to the quantity injected, and the force with which it is thrown in.

From the numberless branchings of the arterial tree, the blood is made to flow over a vast extent of surface, and in a countless number of directions, branching from the parent streams. Thus it meets with a certain amount of obstacle from the friction over this great surface, and from encountering the angles of divergence of the multitude of new channels; and therefore the outward flow is necessarily slower than the inward. I may illustrate this by this India-rubber tube, to one end of which I attach a syringe. I now inject water into it, so as completely to fill it. As long as the distant extremity of the tube is open and unimpeded, you will perceive that each fresh portion of water which I inject into the tube displaces an equal quantity at the other extremity, and no change takes place in the dimensions of the tube; but if I compress its distal extremity, so as to impede the outward flow, immediately you find that the tube dilates at each injection of fresh fluid.

Thus, then, the outward flow, and the dilatation of the arterial tubes together make room for the new supply of blood which each systole of the heart pumps in. Hence the advantage of the arteries being *yielding* tubes. But they are *elastic* likewise, and this elasticity serves an important purpose; for immediately the systole, or the injecting force of the heart, ceases, the stretched walls of the artery contract by virtue of their elasticity. This alternate dilatation and contraction you may also easily witness when I propel water in jets from the syringe into this India-rubber tube. Provided I limit the freedom of egress for the water, at each jet the tube will dilate, resuming its original size as soon as the force of the syringe ceases, again to dilate on its new application, and so on. You observe, too, that, simultaneously with the reaction of the elastic tube, is the escape of fluid from it. It is just so with arteries: the reaction of the elastic arterial wall seems to propel the blood when the heart's force has ceased. And not only does the elastic force of the artery *propel* the blood, but it propels it *in a certain direction*. What is that direction? Onwards: and for what reason? Because it cannot go backwards except to a very limited extent. Its retrograde course is checked by the valves situated at the orifice of the aorta. Were it not for these valves, the elastic force would propel the blood backwards as well as forwards: it would tend merely to empty that part of the artery in which it acted, and it would empty it most freely in that direction in which the blood encountered the least obstacle: it would, therefore, cease to be an important force of the circulation. Hence, in all cases where these valves are imperfect, we have *regurgitation* of blood into the ventricle. You have a good example of this in Loveland, the patient with aortic diastolic bellows-sound, in the Sutherland Ward. In his case only a part of the blood from the left flows forward into the aorta, and part—and that not in small quantity—returns back into the ventricle.

Thus, then, each contraction of the ventricle propels a certain quantity of blood into the arterial system, which dilates for its reception; that dilatation extending, in due proportion, instantaneously throughout the whole system. There follows a reaction as universal, and a compression of the contained blood; but, as the flood-gates at the mouth of the aorta are instantly closed by the blood which is driven back by this compression, it is only the onward flow which is promoted by it: and this onward flow is promoted by a force equal, or very nearly equal, to that of the heart's contraction; for the heart's force distends the elastic arterial wall; and it will, in virtue of its elasticity, contract with a force equal to that which stretched it.

You will perceive that as this elastic reaction succeeds instantly to the systole of the heart, a propelling force is being always exercised upon the blood, to drive it through and from the arterial system. Hence, in the most distant parts of the arterial system and in the capillaries, where the wave caused by the successive injections from the hear has ceased, the flow of blood is continuous, and not *per saltum*.

But in the larger arteries, the supply of blood by jerks is very sensibly felt, and causes it to escape from a wound in one of them, in the characteristic manner by jets —or *per saltum*. Each fresh injection excites an undulatory movement in the blood in the aorta; and this rapidly extends throughout the greatest part of the system, until subdued and destroyed by the resistance from friction and other obstacle.

The wave thus travelling through the arteries communicates to the finger, placed upon any one artery, an impulse, which is synchronous with, or, in the more distant parts of the system, later by a scarcely appreciable interval than, the heart's systole. And this impulse is the pulse.

You will readily understand that the more developed the wave, the more distinct will be the pulse, and it is plain that the wave will be the more developed as the force of the heart is greater, and the larger the quantity of blood propelled into the artery, provided always that the artery be duly proportioned in size to the heart, that its inner surface retain its perfectly normal character, and that its walls are perfectly yielding and elastic.

From this we see that the state of the heart itself, and the state of its orifices, are the most important and the primary elements in determining the character of the pulse. With regard to the heart itself, the vigour of the muscular fibre has the most important bearing; if it is weak and lax, that will be full at the pulse; if its contractions are too vigorous, that will also be felt; if the orifices are impeded, a diminished quantity of blood will flow out, and that will be indicated at the pulse.

There is another point to be taken into account with reference to the pulse,—viz., the *physical condition of the walls of the arteries*. It is evident from the remarks which have been made, that if the walls of the arteries be not perfectly yielding and elastic, they will not dilate freely, nor can the healthy elastic reaction take place. If an India-rubber tube be hardened by cold, so as to lose its yielding elasticity, the effect will be the same as if you threw the water into a tube of metal; there will be no dilatation, no reaction. Just so it is if the walls of the artery be ill-nourished, they may either be so rigid that they refuse to yield at all, or they may freely yield, but not react with due power at the cessation of the distending force. Again, *the state of the lining membrane* of the arteries exerts a certain influence on the character of the pulse; for if it is roughened, as it often is, by ossification, atheromatous deposit, or otherwise, it must exert a certain opposition to the current of the blood, create minor undulations and eddies, which must interfere with the size and force of the primary wave, and produce a condition of pulse analogous in kind, though inferior in degree, to that caused by a similar condition at the orifices of the heart.

But there is yet another important feature in respect to the influence which the arterial walls exercise on the pulse; it consists in the property which arteries possess of *muscular contractility*. They will contract as elastic tubes, and they will also contract as muscular tubes; for it is now clearly determined that they possess muscular fibres, as well as fibres of yellow elastic element. Now this muscular force exercises a very important influence on the current of blood; it is a moderating, an antagonistic force; and very often, were it not for its existence, serious injury would be done to the tissues. In health it exists in proportion to the heart's action,—a fact which accords with its antagonistic nature. This force then, called by many physicians "*tonic power*," opposes the injecting force of the heart, and therefore within certain limits exercises a control over the quantity of blood thrown into the artery: if it be strong, and the artery is more or less contracted and resisting, the quantity of blood will be small; if it be weak, the artery yields, and the quantity of blood is large. Every anatomist knows that if he attempt to inject a placenta immediately after its removal, the injection would fail; but if the placenta be allowed to remain in water for a day or two, then the fluid will pass readily into the blood-vessels, and he will succeed in making a good injection. In the first trial, the muscular contractility of the arteries would resist the admission of the foreign materials injected; in the second, the contractility would have ceased, and the passage of the injection into the vessels would be free.

Perhaps the first point which will arrest your attention when you apply your finger to a beating artery is the *rhythm* of the pulse. This is entirely dependent on the rhythmical action of the heart—and the two invariably go together: if the one is 60, the other is 60; if the one is 120, the other is 120. Take care you make no mistakes on this point; take care you do not forget the necessity of their invariable coincidence. It is just as if you were working with a forcing-pump; the pulsations at the wrist correspond as surely with the contraction of the heart as the jets of water do with the strokes of the piston of the pump.

But there is one *apparent exception* to this (but it is an exception which both illustrates and proves the rule), and we have at the present time an example of it in the hospital: I refer to the case of Whitburn, the man in Fisk ward, who has had pericarditis—a case well worth your careful attention. Here you have a pulse of 50 or 60, and a heart beating at the rate of 120 pulsations in a minute. Now how is this? First observe this point, that whenever there is a want of correspondence between the rhythm of the heart and the rhythm of the pulse, the deficiency in number is always on the side of the pulse,—the beats of the pulse are fewer than the beats of the heart; the reverse is manifestly impossible. The reason of this discordance is this:—If you listen to the heart sounds, you will find that there is a remarkable difference in the strength of the systolic acts; you get a weak and a strong, then a strong and a weak, and so on. Now the strong systolic contractions are sufficient to make the pulsation felt throughout the circulation: the weak are insufficient for this: no doubt they propel the blood a certain distance, but they are not equal to such a propulsion as shall perceptibly distend the artery at the wrist. And you may readily satisfy yourselves that this is the case in the patient to whom I have referred, when you next examine him, if you will only take the trouble whilst you listen to his heart to keep your finger on his radial artery.

The rule, then, is, that the rhythm of the heart and that of the pulse go together; that if one be deranged, the other is instantly so likewise; that the number of the heart's contractions and that of the beats of the pulse is the same; but that, when an exception occurs, it will arise, not from the artery beating more frequently than the heart, but from the force of the latter being insufficient at times to excite such a wave as may be felt in the more distant arteries.

Having made these preliminary remarks on the mode of production of the pulse, and the circumstances which influence, or which control and modify it, I must reserve to another lecture what I have to say respecting its rate of frequency and its other characters.

MORTALITY AT DIFFERENT AGES IN THE UNITED STATES.

Dr. Joynes, in his Statistics on the Mortality of Baltimore, gives the following table, in which the proportion of deaths occurring at different periods of life is exhibited. It embraces a period of five years, 1845-9, during which the total number of deaths, exclusive of still-born, was 17,330. In one column, the actual number dying at each age is given; and in another, the proportion in every 100 deaths.

Under 1 year	4436	equal to	25·59	per cent.
Between 1 and 2 years	1886	“	10·88	“
“ 2 and 5 “	1979	“	11·42	“
“ 5 and 10 “	883	“	5·09	“
“ 10 and 21 “	950	“	5·48	“
“ 21 and 30 “	1652	“	9·53	“
“ 30 and 40 “	1735	“	10·01	“
“ 40 and 50 “	1316	“	7·59	“
“ 50 and 60 “	824	“	4·75	“
“ 60 and 70 “	727	“	4·19	“
“ 70 and 80 “	578	“	3·34	“
“ 80 and 90 “	269	“	1·55	“
“ 90 and 100 “	79	“	0·45	“
100 and upwards	26	“	0·15	“

It appears from the above table that more than one-fourth of the whole number of deaths occurs within the first year of life; and that *nearly one-half* are under the fifth year—47·89 per cent. In order to acquire more exact ideas in regard to this excessive infantile mortality, let us endeavour to ascertain what relation it bears to the population which it affects.

As the population under 5 years, in the year 1840, is given only for the whites, there being no subdivision of the first 10 years in the enumeration of the coloured inhabitants, it is impossible to ascertain with precision the whole number living under 5 years. But if we assume that, of the coloured inhabitants under 10 years, the numbers belonging to the first and last halves of this period have the same proportion as in the white population—and this assumption cannot lead us into any great error—we find that the whole number living under 5 years was 15,491; while that between 5 and 10 was 11,270. Now, if we apply to the whole number of deaths for that year (excluding of course the still-born) the proportions given in our last table for the mortality at different ages, the deaths under five years will have amounted to about 979, or more than 1 in 16 of the population living at that age; while in the next period of 5 years, the deaths will have numbered only 104, or about 1 in 108 of the population—the mortality being nearly seven times as great in the first as in the second period.—*The American Journal of Medical Sciences.*

Original Communications.

AN ACCOUNT OF

TWO CASES OF INTESTINAL OBSTRUCTION CONNECTED WITH OLD HERNIA,

FATAL BY RUPTURE OF THE BOWEL; WITH REMARKS.

By Edward Latham Ormerod, M.D.,
Caius College, Cambridge; Fellow of the Royal College of Physicians; Physician to the Brighton Dispensary.

It has been well remarked that the most practically instructive cases are characterised rather by the absence than by the presence of the usual symptoms, by the seeming breach rather than by the exact observance of the laws of pathology. It is not thus intended to be implied that such cases supersede the study of those which exemplify the ordinary course of disease, but that they carry us beyond them; nor, on the other hand, do they mystify and obscure our present knowledge, or depreciate particular symptoms as not being of constant occurrence, but encourage us to study more closely each individual part, in order that the fragments may be a sufficient guide where we have not the whole.[*]

In this view these cases have been published. They both exemplify obstruction of the bowels, in connection with old hernia, proving suddenly fatal by rupture of the intestine,—an event, save in its suddenness, not so unusual as, under the circumstances of the particular case, wholly unexpected. This occurrence constitutes the chief point of the first case; it divides the interest of the second with the various questions which the difficulties of the diagnosis presented.

I feel too deeply the intricacy and importance of the whole subject to ground any general remarks on the occurrences of a single case; I have limited myself, therefore, to displaying the symptoms in their clearest light in relation to treatment, especially to surgical interference; and, amid the digressions which the various particulars suggest, I have endeavoured to confine myself as closely as possible to the chief object of this paper,—of contributing, namely, to the clinical statistics of this frightful accident.

I. *Symptoms of Intestinal Obstruction—Sudden Death—Rupture of the Bowel.*

A gentleman, of fifty-six years of age was alarmed, on August 20, 1849, by a little looseness of his bowels, the cholera being about at that time. The symptoms, however, were very slight, and yielded at once to a small quantity of calomel. At 5 A.M. on August 21, he was suddenly seized with hiccough and vomiting, and these continuing, in spite of various measures adopted for their removal, I saw him with Mr. Oldham in the afternoon.

At this time his tongue was clean and moist: pulse 84, with natural power. He had no pain in the abdomen, and a large left inguinal hernia, which had existed many years, and for which he would never wear a truss, could be replaced with ease. The inguinal ring was quite free, readily admitting three fingers.

The various means employed to relieve the hiccough were attended with indifferent success. Some improvement followed the use of frequent small doses of hydrocyanic acid, and, when this failed, chloroform gave some relief; but a saline draught, taken so as to effervesce in the stomach, seemed the most successful. A large enema of water was given without producing any sensible effect.

At 4 A.M., August 22, the abdomen was noticed to be tender on pressure on the left side; but this gave way on the application of warm fomentations and a mustard poultice by Mr. Oldham, who had sat up with him during the night. The symptoms still continuing, with this additional indication of the seat of the obstruction, Mr. Furner was now desired to come and examine the hernia afresh; but, just before his arrival, there was a sensation of something giving way in the abdomen. He found the patient already livid and collapsed, and death took place in less than two hours from this period, and in less than thirty-six from the commencement of the hiccough and vomiting.

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[*] It is unnecessary on this subject to do more than allude to Dr. Abercrombie's collection of cases illustrative of the various forms of intestinal obstruction (On Diseases of the Stomach, &c.) The clearness of his descriptions of the morbid changes only makes the obscurity of the symptoms more striking by contrast. Cases 34 and 37 seem to have some relation to the explanation of the first, and cases 36 and 51 respectively to the presumed and actual state of parts of the second of the following cases.

The body was examined eighteen hours after death.

The heart was large and flabby, the enlargement chiefly on the right side. The valves were healthy. There were traces of old tubercle in the apices of the lungs.

The peritoneum was injected here and there, and contained some gas, with about two pints of turbid serum, and a few flocks of recent fibrin. The bowels were not notably distended, nor otherwise diseased, save that they were irregularly matted together, here and there, by old adhesions. One of these bundles, so to say, of small intestines, which had lain in the sac, was generally dusky and œdematous, and in one of its coils was a fissure of about an inch long, running exactly parallel to the valvulæ conniventes.

To this extent the mucous membrane was congested, and in points had been removed. There were no marks of any old changes about the rent, no signs of actual gangrene, and the congestion was equally marked on both sides of it, both above and below the aperture.

On the most careful examination, no band, no edge of any kind, could be found which could with any probability be supposed to have caused this injury by pressure on the bowel.

It is tolerably certain that in this case the rupture of the bowel was owing to no external violence: none, indeed, had been or could well be applied; for the tumor returned into the abdomen on the slightest pressure; and certainly there was no violence, no pressure of any kind being used at the moment when the intestine gave way: but beyond this everything is very uncertain. And but that, almost of necessity, the observer in any case must have formed some opinion as to its nature, and that the reader has a claim to his expression of such an opinion, I would willingly leave the case as a narrative of events to me almost unintelligible.

The most probable explanation seems to be, that a single coil of intestine had become twisted on itself, so that the passage was obstructed above and below the point where the bowel gave way; and that the bowel, distended by its own secretions, its coats always softened by habitual congestion, and now yet more by present inflammation, burst. This explanation is favoured by the appearance of the mucous membrane of the congested portion of bowel in the neighbourhood of the rupture, displaying apparently the traces of some action extended over all this surface. The examination of the exact nature of the lesion at the seat of the rupture goes to show that the wound could not well have been made by a constricting band, even had any such been found. Further, while pointing to distension as the proximate cause of the rupture, there are certain indications that this distension was limited to a small space; for distension of the bowels from the stomach downwards, to such a degree as to induce this rupture, could hardly have arisen in so short a time as thirty-four hours; and, even admitting the possibility of this, then, at least, the evidences of such distension would have been found in the dead body. We should have found them either, as is most probable, still in the intestines themselves, or else in the peritoneal sac. There are several obvious exceptions to be taken to this last argument; but, on the whole, the hypothesis of distension of a limited portion of the bowel, arising from its twisting or displacement, from whatever cause, and leading to rupture of its walls, appears to meet best all the requirements of the case.

Probably with the bursting of the bowel the obstacle to its replacement was removed; and with this all traces of the cause of the obstruction were lost. Assuming the plausibility of the explanation offered above, on its own merits, I do not think that the absence of any traces of the manner in which the obstruction had been produced forms any strong objection to it. On this point I think that all who are conversant with the difficulties of pathological inquiries turning on the relative positions of the hollow abdominal viscera during life, would be well agreed.

On the question of treatment this case throws no light. There was no pointing to different methods of relief—no balancing of symptoms; and the whole progress of the case was too rapid to allow time for any conclusions to be formed—proving fatal, as it did, almost before the existence of danger could have been predicted from the particular symptoms, apart from the general nature of the case. It is simply a warning of the danger of neglecting old herniæ, and an illustration of one of the many ways in which that danger may arise.

It contrasts well with the following case, for the careful examination of which so much more time was allowed. It is little more than the expression of one pathological fact. The following case, on the contrary, beginning in the same way, and ending in the same way, will well repay the examination of the details of some of the intermediate steps.

II. *Intestinal Obstruction—Rupture of the Bowel, followed by Death in one hour.*

On the 14th of December, 1850, I was called by Mr. Blaker to see a patient of his who had constipation of the bowels of five days' duration, accompanied, during the last twenty-four hours or more, by hiccough and vomiting. The subject of this affection was a gentleman of 69 years of age, of quiet, abstemious habits, suffering always, more or less, from constipation; the motions being scanty, rather loose, and passed with uneasiness, but more particularly so during the last two years. He had a large left inguinal hernia, which had never given him any trouble, and for which he had never worn a truss.

On December 8th his bowels had acted twice. The next day they did not act at all, and he became uneasy; and they had not acted since, though he had taken various purgatives, and had been using enemata. On December 13 hiccough set in, attended with vomiting. In the first instance a large quantity of fluid food was brought up; but since then the matters vomited have been an acid-smelling mucus, with black shreds of altered blood: they have never been fæcal. Urine natural throughout.

He had slept well; tongue large, flabby, white, not furred; pulse 96, rather sharp, intermitting (as usual). The abdomen was distended, and rather tender on the right side over the caput coli, and also a little above and to the right of the umbilicus. The left side of the abdomen was soft, and might be freely handled without causing the slightest pain. The hernia returned readily, and apparently completely.—He was recommended to live sparingly, and only on fluid food; to apply a stimulant embrocation over the abdomen; and to take a drachm of Sulphate of Magnesia, with ♏v. of Hydrocyanic Acid, every four hours, omitting other purgatives.

Dec. 15.—Good sleep; less vomiting and hiccough; tongue as before; pulse 72, fuller, softer. He has passed some wind. The abdomen remains the same, fuller to the eye on the right than on the left side; the left side bears any amount of handling, but the right is tender, and any pressure on it brings back the hiccough.—To continue; and to-night to have a large enema of water while he is in the bath.

Dec. 16.—No effect from the enema. Mr. Blaker ascertained, on examination, that the rectum was healthy as far as the finger would reach. The vomiting and hiccough are still less distressing, but his face looks a little more anxious; tongue slightly furred; pulse 90, again rather sharp. Mr. Tayler saw him with us to-day; and, after another careful examination of the abdomen, it was agreed to go on with the medicine, and the large enemata of plain water, and to apply ten leeches to the right iliac region.

Dec. 17.—He passed wind freely, and the fluid of the enema returned slightly coloured; but the quantity which the bowel could be got to contain at one time was small. His expression is easier; tongue again clean, and hiccough and vomiting almost removed.—To leave off the Sulphate of Magnesia, continuing the Hydrocyanic Acid and the enemata.

Dec. 18.—In the evening the enema returned more distinctly coloured. The next morning he had a scanty fluid evacuation from the bowels, and his friends were congratulating themselves that a passage had been made at last. They were suddenly called to him, as he was said to have fainted on returning to bed after the action of his bowels. He was in intense agony over the abdomen, and died within an hour after the first seizure.

The body was examined 5¼ hours after death.

Neck rigid; limbs still relaxed.

The abdomen was much distended; the omentum was drawn tightly over all the intestines, being adherent to the walls of the abdomen below. On dividing this, the bowels appeared uniformly dusky and distended, and the peritoneum was filled with fluid fæces, which were welling out of an opening in the caput coli. There were one or two bands of friable lymph about the caput coli; but besides these, and the general dusky hue of the intestines, and a slight degree of rottenness of their coats, there were no other evident traces of recent inflammatory action.

The small intestines were next removed, when the cæcum appeared enormously distended; and the distension continued, though still lessening, down to the sigmoid flexure, which lay in the hernial sac, connected to it by a long, very strong, old cord. Here the distension abruptly ceased.

Internally, the mucous membrane of the lower end of the ileum appeared healthy, only dusky. In the mucous membrane of the cæcum were two large ragged cracks, as if the membrane had given way, and the edges had retracted. In one of these denuded spaces was an opening about a quarter of an inch long, through which the fæces had escaped. On descending the colon, the mucous membrane again appeared healthy, till near the point where the sigmoid flexure left the hernial sac. Here, externally, the bowel in front had the appearance of a naturally contracted gut, only it felt thick. The appendices epiplöicæ were unusually well developed. Behind, it was firmly attached, by strong vascular tissue, to the long cord already noticed. Above, the longitudinal bands of muscle were enormously thickened: below, all appeared natural, where the bowel crossed the pelvis to return to the sacrum as the rectum. On opening the bowel, the mucous membrane was found wanting for about an inch, terminating above and below by a tolerably well-defined thickened edge. To this extent the canal was so contracted as barely to allow of the passage of a common pencil. There were pultaceous fæces in and below the strictured part. No scybala were found.

No other part of the body was examined.

Of the history of this morbid change in the bowel there is little certain to say: for he was a single man, who spoke little of his ailments, and, apparently, took little notice of them. Probably the irritation of the displacement caused first the ulceration of the bowel; coincidently the adhesion to the sac; and consequently the contraction of the canal. It was curious to notice, in connection with this disease of a limited portion of the sigmoid flexure, the same excessive development of the appendices epiplöicæ which usually coincides with an analogous affection of the rectum.

The explanation of the fatal attack, too, may be given in a few words. There was a stricture of the sigmoid flexure, in which, probably, some hardened fæcal matter had caught; thence distension of the colon, and especially of the cæcum, rupture of the bowel, and death from the shock of this injury before inflammation had well time to display itself. Corrected by dissection, and as it stands now, the case is quite plain: but the very important practical bearing of some of the symptoms requires that they should be dwelt on a little more in detail.

The symptoms observed during life,—that is to say, the extreme distension and tenderness limited to the right side,—led to the conclusion that the obstruction in this case was situated in the ascending colon, hindering the passage of fæcal matter from the distended cæcum. And they discountenanced the idea of the hernia on the left side having anything at all to do with the obstruction. Both alike erroneously. Yet, indeed, the elements of a correct diagnosis existed, only they were obscured and contradicted by the more prominent symptoms. There was a history of the habitual loose, unformed character, of the evacuations, indicating the probability of a stricture of the intestines: and the inability to retain any large quantity of fluid injected into the rectum might have led to the inference that the stricture was low down. But though these facts might, in the present instance, have justified such an inference as to the exact seat of the stricture, I need scarcely occupy any time in pointing out the fallacies to which such an interpretation is open: for on their own absolute value, amongst contending indications, they would scarcely be allowed to overrule the inference from other symptoms such as were presented in this case.

It was the prominence of the signs of distension on the right side of the abdomen which appeared to define the seat of the obstruction, and obscured all other symptoms referable to parts lower down. It might seem that more certain information as to the seat of the obstruction might have been obtained by the use of a rectum tube. But I think that, even had the existence of an obstruction in the sigmoid flexure been indicated by this means, the information would have gone for no more than did that of the other indications, already noticed, of the seat of the lesion: the more so, if by any means we could have known, what was really the case, that the protruded bowel was part of the sigmoid flexure. Nothing of ambiguous meaning (and, indeed, the information derived from any obstruction to the passage of the rectum-tube, out of reach of the finger, is of very ambiguous meaning) would have been allowed to overrule the positive indications of distension and pain which directed our attention to the right side.

It is not the vain and empty hope of arriving at an accurate diagnosis—if accuracy in any branch of pathology can be deemed empty and vain—which gives the inquiry after the indications of the exact seat of the lesion in cases of this kind so deep an interest. It has a most direct practical bearing on the question of what can be done for the relief of this class of cases by surgical interference after all other means have failed. Let us regard the above case in this point of view.

In the present state of our knowledge, clearly the above was not a case for surgical interference. The obstruction, in fact, yielded to the means employed; and perhaps a little more caution on the part of the patient at the moment when, on the spontaneous action of his bowels, he deemed all danger was over, would have prevented the rupture of the intestine at the point weakened by the laceration of the mucous membrane. The symptoms were never so urgent as to justify subjecting the patient to the risk of an operation: nor was the stricture so impassable as to require it. As far as concerns the above case, then, the question of operation is not a point at issue. But as the dissection of one case is useful for explaining the symptoms in another, it is mainly in this view that the above case has been detailed.

On the operation itself of opening the peritoneum, and its difficulties, I am not competent to speak. I can only conjecture what these must be from the difficulty which I have myself sometimes found, in the dead body laid open from the chin to the pubes, in ascertaining the exact nature of the obstruction. These difficulties can be lessened only by dropping at once on the exact seat of the obstruction, guided to it, when we dare trust them, by the symptoms.

This case quite bears out the assertion that the symptoms cannot absolutely determine the *seat* of the lesion. For if ever the seat of the lesion could seem accurately determinable, it did so seem here. And how erroneously! Nor can the symptoms tell the *nature* of the lesion. And yet both of these are essential to be known before deciding on so important an operation as opening the peritoneum in search of an obstructed bowel. For it is not, in the case of internal obstruction, as in that of external hernia, that the alternative of death or of an operation can be distinctly laid before the patient. The seemingly worst cases of internal obstruction may recover.* I have seen one such of sixteen days' duration. And until the risk of death from the obstruction is at least equal to that from the operation, we have scarcely any right to urge the patient to submit to it. How painful is the obscurity of these symptoms, on which we must rely to measure both the risk of present death from the disease, if unrelieved, and the chance of success in our attempts at its relief, and to facilitate those attempts.

I could wish to have assigned this case a place with those to be relieved by Amussat's operation, such as have been recently described by Mr. Field and Mr. Clarkson, of Birmingham (Med. Chir. Trans., vol. xxxiii.); or by Mr. Evans, of Derby (Med. Chir Trans., vol. xxviii.). But I think that a perusal of their very instructive cases shows that, though they have all four a close connection anatomically, yet, during life at least, these symptoms placed them in a very different category.

In the probable interpretation of its symptoms, the last case approached nearest to that described by Mr. Evans, where the stricture was seated at the commencement of the transverse colon. But with regard to the operation for its relief:—Recollecting that the twisting of the cæcum on itself implies the existence of a long mesentery to the cæcum, and hence an additional chance of failure in the object of the operation, Amussat's operation could scarcely have been considered more than tentative in a case where such an explanation of the cause of the obstruction appeared probable. Had the necessity for an operation arisen, though dissection showed that an opening in either loin would have answered every purpose, yet I think that the symptoms would have indicated (unless they had much changed) nothing less than opening the peritoneum: I need not say, considering what was the actual state of things, with what result.

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* A very instructive case of recovery from the worst symptoms of intestinal obstruction is quoted from the Medical Times in Ranking's Abstract, xii. p. 64.

Mr. B. Phillips has condensed the information which existed on this subject at the time he wrote in a very valuable essay (Med. Chir. Trans. vol. xxxi.) to which he has appended such conclusions as the facts seemed to him to justify. My own limited experience agrees very closely with his more extended inferences. Thus:—he gives one per cent. as the average number of deaths from this cause in the accumulated records of 2,392 dissections of different pathologists. Counting the cases which have come under my own observation, strictly to be considered as cases of intestinal obstruction fatal as such (viz., 1, 2, 3, 4, 7, 8), these occurred in about the same proportion of one per cent. of deaths from all causes followed by dissection. On other points too,—namely, on the danger of an indiscriminate use of purgative medicine; on the uncertainty of the effects of large enemata; and on the importance of using the most strict antiphlogistic treatment,—I beg to offer my humble confirmation of the correctness of Mr. Phillips's conclusions.

As a small contribution to the statistics of this affection, I subjoin, in a condensed form, the results of my own observations of the various modes of production and symptoms of obstruction to the bowels from mechanical causes external to the intestinal canal.

1. M., 60 (Case I.)—Hiccough, vomiting, not fæcal; death in thirty-six hours. *Post-mortem.*—Rupture of the ileum, apparently from local distension, in connection with an old hernia.

2. M., 69 (Case II.)—Hiccough, vomiting, not fæcal; symptoms not violent, and amenable to treatment, referable to the caput coli: death in nine days. *Post-mortem.*—Rupture of the caput coli; contraction of the sigmoid flexure in connection with an old hernia.

3. F., 20 (Lancet 1846, vol. ii. p. 170.)—Pain in abdomen, fæcal vomiting relieved by free depletion; recurrence of the same symptoms: death in a fortnight. *Post-mortem.*—No definite point of stricture discovered; the obstruction caused by a large mass of small intestine being detained and compressed in the pelvis by old adhesion of the omentum and mesentery to the front of the abdomen.

4. F., 35 (Op. cit. p. 286.)—Intense pain in the abdomen, fæcal vomiting: death in ten days. *Post-mortem.*—Twisting of a coil of the ileum on itself, spontaneous replacement being prevented by an old adhesion.

5. M., 20 (Op. cit. p. 287. From the notes of Mr. W. P. Ormerod.)—Acute pain and vomiting: death in four days. *Post-mortem.*—Strangulation of a coil of the ileum between the spine and a band passing from the ileum to the sigmoid flexure*.

6. F. (Op. cit. p. 288. Mr. W. P. Ormerod.)—Pain, fæcal vomiting; symptoms coming on slowly: death in seven days. *Post-mortem.*—A coil of ileum strangulated by a band of omentum which was attached to the neck of an old femoral sac.†

7. M., 58.—Sudden violent attack of pain, fæcal vomiting, suppression of urine; rapid collapse, and death in thirty-three hours. *Post-mortem.*—Twisting of the mesentery of the lower two-thirds of the ileum, which was prevented from replacing itself by a band formed by an adhesion of the omentum.

8. M., 7.—Tumor in the left of the abdomen of six months existence, occasional vomiting and constipation; and pain in the abdomen, relieved by pressure. Scybala, sanious matter, and blood, were passed from the bowels: death by coma. *Post-mortem.*—Intussusception of the colon, the ileo-cæcal

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* A case is recorded by Mr. C. R. Thompson. Med. Gaz., vol. xlvi. p. 61, where the obstruction depended on a very similar condition of parts.

† Some more cases of this same kind have been recorded by my brother in his Clinical Observations on Surgery, p. 17.

valve having descended to within two or three inches of the anus[*].

9. F., 22.—Obstinate constipation, subsequent diarrhœa, peritonitis. *Post-mortem.*—Uterus bent back, the fundus pressing against the rectum, so as to obstruct the passage of scybala with which the bowel was distended, and along the side of which the fluid fæces had made a way for themselves.

10. F., 40—Carcinoma uteri, latterly obstinate constipation and vomiting. *Post-mortem.*—The rectum flattened and compressed by the malignant growth in the pelvis, the sigmoid flexure distended with scybala.

11. F., 16 — Habitual diarrhœa: death from marasmus. *Post-mortem.*—A coil of the ileum strictured behind a band passing from the omentum to the mesentery; no marks of strangulation, but the stricture was very close[†].

12. F., 61—One month's vomiting and constipation; then purging, with occasional fæcal vomiting, and death in about two months from the commencement of the symptoms. *Post-mortem.*—Stricture of the transverse colon, malignant; an opening from the colon into the ileum and back again.

I am indebted to Dr. Jenks for the opportunity of observing this last case, which was under his care, in the Sussex County Hospital. Cases 3, 4, 7, 8, 9, 10, 11, occurred in St. Bartholomew's Hospital, under my own observation, and 5, 6, under my brother, to whom I am indebted for the particulars. For the account of the morbid appearance of 9, I am obliged to the zeal of Mr. Crowe, Dr. Burrows's clinical clerk, in charge of the case.

Turning, in conclusion, briefly to what the two cases narrated above have in common:—we may enumerate, symptoms of intestinal obstruction shown after death to be connected with old reducible or apparently reducible inguinal herniæ, for which a truss had never been worn; hiccough and vomiting, among the other symptoms of internal strangulation, in one urgent, in the other less violent and more amenable to treatment: rupture of the bowel, and death in one or two hours from the shock, before inflammation had well time to produce its organic effect. These were the symptoms brought most prominently into notice in the two cases. I hope that this simple record of their mode of sequence, of what was attempted, with however small a measure of success, for their relief, and the investigation of the causes of the want of success, may not be deemed wholly unprofitable.

It remains only to express my obligations to my friends, Mr. Oldham and Mr. Blaker, for their valuable assistance in ascertaining many of the facts; and for correcting and extending my information on various points noticed in this paper

Brighton, February 1851.

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[*] Large enemata of water had been given, unknowingly of this state of parts, without any effect save the dislodgment of scybala. A case is quoted by Hunter (vol. iii. p. 588) occurring to Mr. Whately (Phil Trans. vol. lxxvi. p. 305), as the largest intro-susception of any known to him, in which the local changes were to the same extent as in the case noted above, the ileo-cæcal valve having descended to the anus.

[†] The small intestines were extensively ulcerated above the strictured portions. Yet this girl had taken nothing but chalk mixture to check the diarrhœa, for which alone she was treated. There were no tubercles in her lungs. It might seem that the obstruction itself was the remote cause of the ulceration and the diarrhœa. In connection with this case it will be remembered that diarrhœa is a symptom of universal adhesion of the peritoneum, independent of the tubercular ulceration which commonly accompanies that state of adhesion. I believe, though perhaps on insufficient grounds, that, generally, stricture of the intestines just short of actual obstruction induces diarrhœa, or looseness of the evacuations whenever they act. And this irrespective of the seat of stricture. This, as already noticed, was the earliest indication of the obstruction in the two cases above detailed.

STATISTICS OF THE CHOLERA IN BERLIN FROM 1831 TO 1850.

The following details, taken from an authentic account of the various visitations of cholera in Berlin, are perhaps likely to prove interesting to many of our readers:—

Years.	Number of Inhabitants	Patients	Proportion.	Recovered.	Died.
1831	229,848	2,274	9·8	851	1,423
1832	234,471	613	2·6	201	412
1837	265,394	3,557	13·4	1,219	2,338
1848	400,557	2,407	6·0	812	1,595
1849	404,600	5,361	13·0	1,809	3,552
1850	417,665	1,185	2·8	474	711

Total number of patients 15,397, of whom 5,366 recovered, and 10,031 died.—*Kölner Zeitung.*

ON SOME POINTS
CONCERNING THE
MECHANISM OF THE HIP-JOINT.

By Luther Holden, Esq.

(Read before the Abernethian Society, Nov. 14, 1850.)

The problem to be solved in the construction of the hip-joint is, that the joint possess solidity adequate to support the weight of the body, to resist the violent shocks to which it is exposed, and that it be freely moveable in all directions consistent with the requirements of the lower limbs. Now these purposes can only be accomplished by a ball-and-socket joint, and such an one nature has made in the very best possible manner.

By making sections through the fresh joint, it is observed that the respective surfaces of the head of the femur and of the acetabulum form segments of spheres of equal diameters, and that therefore they are accurately adapted each to the other. If we institute a comparison between the ball and socket of the hip, and the ball and socket of human contrivance, the great superiority of nature's work is at once evident. In the artificial ball and socket, it is essential that the socket form more than half a circle, else the ball would not be retained in it; the range of motion is therefore necessarily limited, since the stem to which the ball is fixed soon comes in contact with the margin of the socket. But the human acetabulum is part of a circle of less than 180°, and therefore the head of the femur has a very wide range of motion, as one may see in the tricks of mountebanks, who can raise their legs to their shoulders, and fall on their buttocks with their legs stretched out at a right angle.

In order to deepen the acetabulum, and to render it air-tight, its margin is provided with a ring of fibro-cartilage, commonly called the cotyloid ligament. This is a flexible, gradually shelving, lip, which, by virtue of its elasticity, embraces the head of the femur. Its component fibres run parallel to the margin of the acetabulum, and pass uninterrupted across the notch at the lower part of it. The use of this elastic ring is to act like a valve or sucker to the acetabulum, and to keep it, as it were, hermetically sealed. The capsule of the hip may be completely distended with fluid, without any risk of the fluid entering the acetabulum, so long as the sucker is in proper action. But let ever so small a quantity of fluid be secreted within the acetabulum, the consequence is, that the head of the femur ceases to be in accurate contact with its socket; the sucker is presently raised by the junction of the fluid within and without the acetabulum, and thus it happens that the limb not only becomes lengthened, but it may even be spontaneously dislocated, provided the ligaments have sufficiently yielded.

In the ball and socket of human contrivance, it is obvious that the ball is held fast by the constriction of the mouth of the socket itself. But in the hip-joint, the power which holds the head of the femur in the acetabulum is atmospheric pressure. From the very construction of the parts, any one in the least degree familiar with natural philosophy will see at once that it must be so. But it is easily proved by direct experiment. If all the soft parts, including the capsule, be removed from the joint, we find that the head of the femur is still held in the acetabulum, and that it requires a very considerable force to pull it out. The precise amount of this force can be readily estimated by ascertaining the superficial area of the acetabulum, and allowing 15 lbs. for every square inch of surface. But without making any such calculation, it may be asserted that the amount of atmospheric pressure is more than sufficient to sustain the weight of the entire limb when freely suspended in the air.

Now the object attained by the limb being held in its socket by atmospheric pressure, is, the saving of muscular exertion in locomotion. The head of the femur, supported by the air, moves with the greatest freedom, and with the least possible amount of friction, in the acetabulum; so that, in walking, the hinder leg, once raised from the ground, swings, by the mere force of its own weight, in advance of the other. During this spontaneous movement of the leg, all its muscles are in a state of complete repose. This fact explains, what is matter of common observation, why a man can walk, during a given number of hours, with less fatigue than it would cost him to stand still.

Such being the organization of the hip-joint, one might suppose that the range of its motion would be almost as free as that of the shoulder. But, since this would ill accord with the security of the erect posture, we find that nature has restricted its motion in certain directions by means of ligaments extending from the pelvis to the thigh. Of these there are two,—the *capsular* and the *round*.

The *capsular* ligament not only serves to strengthen the joint, but plays a most important part in restricting the motions of the thigh. In a general way, it may be said that the upper end is attached round the margin of the acetabulum, and the lower to the base of the neck of the femur; not, however, round its entire circumference, as is commonly described, but only along its front and upper part. At its back part the capsular ligament simply embraces the neck in the same manner as the annular ligament embraces the head of the radius. Now the anterior part of the capsule is remarkably thick and strong. It is, indeed, the strongest ligament in the body,—stronger than the tendo Achillis or the ligamentum patellæ. To understand its purpose and design, we should observe that it descends from the upper part of the circumference of the acetabulum, downwards and outwards to the anterior inter-trochanteric ridge of the femur, this ridge being specially intended for its attachment. In the erect posture, this part of the capsule is fully on the stretch, and therefore it limits any backward movement of the thigh on the pelvis, or of the pelvis on the thigh. Besides, however, its power of limiting backward movement, a glance at its attachment shows that it limits adduction of the thigh,—in other words, it prevents the pelvis from rolling *towards* the opposite side, while we are standing on one leg; and in this latter respect it co-operates, as will be seen presently, with the ligamentum teres.

The posterior part of the capsular ligament, which simply embraces the neck of the femur, may very properly be called the annular ligament of the hip. One sees clearly why it should not have been attached to the femur; for, had it been *so*, it must of necessity have presented an obstacle to the free bending of the pelvis on the thigh,—as, for instance, in sitting or stooping.

Lastly, we have to consider the action of the ligamentum teres. This is placed inside the acetabulum, and it is attached respectively to the borders of the acetabular notch and to the head of the femur. Its presence in the acetabulum would have prevented the accurate adaptation of the ball and socket, if the bottom of the socket had not been excavated expressly for its reception and free play. The room not occupied by the ligament is filled up by soft fat, which serves merely a mechanical purpose.

The reason why anatomists have been generally misled as to the use of the round ligament, is, that they have not properly calculated the true inclination of the pelvis, and consequently the precise direction of the ligament in the erect posture. The pelvis in the erect attitude is so inclined, that it forms with the horizon an angle of 60°. Now if a pelvis be held at this angle, we find that the notch to which the ligament is attached will be at the lowest part of the acetabulum. Again, by making a vertical section through the head of the femur, we may ascertain that the ligament, in *the erect position*, is not only vertical, but fully on the stretch. Consequently its action is to assist the anterior part of the capsule in preventing the tendency of the pelvis to roll over towards the opposite side, *i. e.* while we are standing upon one leg.

Upon the whole, then, it appears that the disposition of the ligaments is such as to maintain the pelvis steadily upon the head of even one thigh bone, without the co-operation of any muscles except those which counteract the tendency of the trunk to fall forwards.

Besides its peculiar action as a ligament, the ligamentum teres serves to convey blood-vessels to the head of the thigh bone. This fact is at variance with the statements of many modern anatomists, who affirm that the blood-vessels do not enter the head of the bone, but return in a loop-like manner. There is, however, a preparation on the table, in which the vessels are clearly traced into the cancellous structure of the head of the femur.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 13th February, 1851:—Charles Travers Mackin.—Thomas Lewis.

ON THE SEPARATE COURSE OF

SENSATION, VOLITION, AND THE INVOLUNTARY POWER,

FROM AND TO THE BRAIN, THE OBLONG MEDULLA, AND THE SPINAL CORD.

By Joseph Swan.

The oblong medulla may be divided into four principal parts. The anterior central part forms the pyramidal bodies; these, with the crura of the brain, give origin to several motive nerves, and may be called the voluntary tract. The posterior surface forms a layer which contains the floor of the fourth ventricle, and forms a bed for the origin of the auditory nerve, and a great portion of the fifth; this may be called the sensitive tract. Between the two preceding tracts there is a large ganglion or case, filled with grey and white matter; and this may be called the involuntary tract. Besides these, there are at the sides the restiform bodies, principally derived from the cerebellum; but it is not intended further to notice them.

The sensitive tract in the oblong medulla is a layer of moderate thickness. It passes upwards as far as the nates, and then obliquely across and underneath these to the inner and posterior margin of the thalamus; it here forms a cord as thick as a swan's quill. It passes outwardly across the thalamus, underneath the optic tract; it sends off a layer of wavy tracts or lines underneath the epithelium of the posterior and descending horns of the lateral ventricle, and is then intermixed with the white matter of the posterior lobe of the brain.

The voluntary tract, after forming layers in the annular tubercle, and combining with the inferior pedicle of the cerebellum, forms the external portion of the crus of the brain, especially that bounded by the involuntary tract and the black matter. The larger part of it passes upwards, communicating freely with the middle and broad portions of the striated body, in its course to the white matter leading to the great commissure and the convolutions of the brain.

The involuntary tract forms, in the oblong medulla, between the sensitive and voluntary tracts, a broad and thick triangular and somewhat heart-shaped ganglion or case, having partitions filled with grey and white matter: below, it sends processes downwards, to pass at the bottom of the longitudinal fissure between the two anterior quarters of the spinal cord. Opposite the crura of the brain it divides into two portions, each of which is a cylinder, containing pouches filled with grey and white matter. On arriving at the thalamus, each passes outwardly and anteriorly to the sensitive tract; at this part the cylinder forms a distinct ring, from which the involuntary tract is continued across the thalamus, between the sensitive and voluntary tracts; and after communicating with the narrow end of the striated body, becomes combined with the white matter leading to the great commissure and the convolutions of the brain.

In the horse, ox, pig, and sheep, the sensitive tract passes from the posterior surface of the oblong medulla nearly as in man; it forms an expansion underneath the epithelium lining the posterior horn of the lateral ventricle, and the rest is combined with the white matter corresponding with that in the posterior lobe of the brain in man.

The voluntary tract in animals is very similar to the same in man, except that it undergoes a more simple change in the smaller annular tubercle on becoming combined with the inferior pedicles of the cerebellum.

The involuntary tract in animals is a most curious and interesting structure. It is firmer than any other part of the brain, and, in external appearance, very much resembles a ganglion of the sympathetic nerve. It begins in the thalamus, at the ring by which the soft commissures communicate. It is surrounded by the third ventricle, and its continuation downwards lies beneath the passage from the third to the fourth ventricle. In the fourth ventricle it lies immediately underneath the central part of the sensitive tract. At the ring it forms a large, round, or oval case of white matter; this is composed in the centre of oblong cells, plainly distinguished by the naked eye in the horse; and into these the grey matter of the soft commissure enters, for connecting their two sides. The ring is very large in the horse; it is connected to the nucleus of the white matter of the brain anteriorly, and with the tænia, and through this with the sensitive tract. From the posterior and outer side of this case white fibres pass off, which go through the narrow end of the striated body to the white matter leading to the convolutions; these fibres correspond with the same termination of the involuntary tract in man. Both sides of the lower end of the case become concentrated in a large ganglion, of the size of half a swan's quill; this is soon joined by a similar ganglion from the opposite case. The ganglion thus formed contracts to the size of a goose's quill; it then enlarges again in the oblong medulla, and assumes an oblong and pyriform shape, the narrow end being continued into the spinal cord, where it lies in the bottom of the longitudinal fissure formed by the two anterior quarters. The case and ganglions communicate by numerous fibres, especially laterally, with the contiguous parts of the brain, and with the oblong medulla and spinal cord. In the ox the case and ganglia are similar but less. In the sheep they are also similar, but less than in the ox. In the pig the same parts are also similar; the ganglia are not quite so large as in the ox, and are less oval in shape. This large ganglionic mass appears as if it were the source of vital power—for giving energy to all the other parts—for exciting involuntary action constantly in some parts through the fibres it sends through the narrow end of the striated body—and for calling into action all the other parts, when any necessity arises for their assistance.

This brief paper is the result of very numerous dissections, and is an outline of my very constant occupation for many months.

6, Tavistock Square, Feb. 1851.

SICKNESS AMONG THE ENGLISH TROOPS IN CHINA.

Letters from Hongkong, of the date of December 10, 1850, contain the following statement respecting the sanitary condition of the English troops:—Notwithstanding the cold and bracing weather we now have, great sickness still prevails among Her Majesty's 59th regiment—upwards of 200 being generally in the hospital. It is confined chiefly to those who were laid up last summer; but it is evident that there is something radically wrong when, at a period of the year when all other invalids rapidly recover, sickness and mortality still exist to so great a degree among one regiment, and is confined to them.

ON THE

RISE, PROGRESS, AND VARIOUS TERMINATIONS OF CHRONIC OVARIAN TUMORS.

By Edward John Tilt, M.D.

Senior Physician to the Paddington Free Dispensary for the Diseases of Women and Children, &c. &c.

[Continued from p. 119.]

We have shown, by a table appended to our last paper (London Medical Gazette, Jan. 8th) that the rupture of ovarian cysts was not in any way so fatal as it has been universally represented; and we proved that, if this accident was fatal in 22 cases, it gave relief to the patient in 20 cases, and was even reported to have cured them in 30 cases.

Of the 20 cases partially cured, some refilled twice, some three times; some began to refill almost immediately after their rupture, as in Morgagni's case; others refilled after an interval of several months. Two years passed without any sign of refilling in Mr. Eager's case, five years in Mr. Woolley's, and seven years in that related by Sir A. Cooper.

The following case records the principal peculiarities of such cases, and is given by Dr. Camus (Rev. Méd. Nov. 1844):—

"A woman, about 45 years of age, had laboured under encysted dropsy of the right ovary for two years and a half. Purgatives, diuretics, ioduret of potassium, and compression, had alike failed in procuring any benefit. The patient was, on the whole, however, in a tolerable state until the 17th of January, 1844, when the tumor became the seat of severe pain, accompanied with extreme lassitude, shivering, and slight fever, for which a bleeding was prescribed.

"On the 19th, the patient was suddenly seized with severe pain in the abdomen, prolonged shivering, nausea, vomiting, and great restlessness; pulse 126; colic; face anxious, as in peritonitis.

"On examining the abdomen, Dr. Camus discovered, to his surprise, that its shape was completely altered; instead of projecting, it was flattened at the centre: but the abdomen had gained in size what it had lost in prominence. Percussion rendered a clear sound in the median line, in the neighbourhood of the umbilicus, where formerly a dull sound had been heard. At the sides a clear sound was replaced by a dull one. The undulation of fluid from one side to the other had never before been so perceptible. These remarkable changes were evidently due to rupture of the cyst, and the consequent effusion of the fluid it contained into the peritoneal cavity. Notwithstanding the fears to which this accident gave rise, the peritonitis terminated safely in the course of two or three days.

On the 22d and 23d of January, the urine, hitherto scanty, became clear and limpid, and in such quantity as to fill the vessel five times in the 24 hours. During this time the abdomen also lost from two to three inches daily in circumference, and became more and more pliant.

On the 1st of February, twelve days after the rupture, the urine still continuing to be passed in abundance, the existence of fluid in the peritoneal cavity could no longer be discovered; the abdomen was reduced to a size to which the patient had long been a stranger, and all symptoms of inflammation had disappeared.

"Notwithstanding the employment of regular pressure and diuretics, the fluid soon accumulated again, and the abdomen acquired a size even greater than before.

"On the 17th of July the patient was seized with sudden pain, and an extraordinary movement in the abdomen; which phenomena, being almost immediately followed by sinking of the median line, and enlargement of the sides, indicated that effusion of fluid had again taken place into the peritoneum. The same series of phenomena occurred as formerly, but they were of less severity. The quantity of urine was also less. The fluid was, however, again entirely re-absorbed, although somewhat more slowly. At the end of four months and a half the cyst had again filled. A third rupture took place; there were the same symptoms, but with diminished severity. The urinary discharge was still less abundant, though the absorption was accomplished in ten days."

From the perusal of the 22 cases which terminated fatally, we learn that death has generally been brought on by acute peritonitis, and the patient's sufferings have soon terminated: still it is wonderful for how long a time the peristaltic action can be carried on in spite of very extensive pathological lesions. Eleven weeks elapsed between the rupture of the cyst and death in Mr. Herapath's case (piliferous cyst). In Morgagni's (steatomatous cyst) the patient had been ill a year; and, in another case of the rupture of a steatomatous cyst, life was protracted for two years.

That the extent of peritonitis, and the rapidity of its termination, does not depend on the size of the tumor, is well shown by the following case, which occurred in the practice of Mr. F. Crisp, of Walworth:—

"M. A., æt. 40, unmarried and generally healthy, had been under the care of a medical man for several months with ulcers of the legs. An ointment, composed of ten grains of extract of hemlock to an ounce of elder ointment, was changed occasionally for an ointment consisting of lead plaster, wax, and lard, the proportion of lead being very small. The menstrual functions had been irregular for some time. I was first called to the patient at midnight on the 12th of February, 1849. She had been indisposed for a few days. The chief symptoms were rigors, small quick pulse, and great depression. On the following day she was much in the same state. On the 14th, when I visited her, she appeared to be suffering from subacute peritonitis of a mild form: there was slight tenderness over the lower part of the abdomen; the pulse was rather small and feeble; no sickness had occurred; and the thighs were not flexed on the abdomen: the countenance anxious, and the aspect of the case unfavourable, although no prominent symptom existed. Soon after my visit a sudden change took place; there was great increase of pain, and she died in a few hours. The treatment consisted in the application of hot bran poultices to the abdomen, small doses of calomel and opium, with febrifuge medicine.

"*Autopsy* 15 *hours after death.*—Messrs. Taylor, Edwards, and Crisp, present.—External appearance of the body natural: a large bronchocele had existed for several years. The contents of the chest normal, with the exception of a little puckering at the apex of the right lung, with a small cretaceous deposit in the depression. *Abdomen:* the liver fatty, and the left lobe harder than natural; the peritoneum, at the lower part of the abdomen, vascular, and a little sero-purulent fluid in its cavity; several layers of lymph on the intestines, but these were not glued together. The uterus small, and its fundus of a rose colour. The ovaries vascular and small: on the right there was a serous cyst the size of a nut, which contained a dark-coloured fluid, apparently blood and serum; the parietes were thin, vascular, and would probably soon have ruptured: on the left ovary were the remains of a smaller cyst, which appeared recently to have lost its contents. There was a small ragged opening; the edges of the rent were red, and adherent to the posterior wall. The stomach and kidneys healthy. The intestines were carefully examined, and no perforation existed.

"Remarks.—In this case, as in the last, it is, I think, not improbable that subacute inflammation of the peritoneal covering of the uterus and its appendages had existed for several days, and that the fatal and sudden termination was accelerated by the rupture of the ovarian cyst, and the production of general peritonitis.

Again, in W. Pollard's case, the rupture of a very small cyst gave rise to a very abundant hæmorrhage in the abdomen.

The following case of sudden death, related in the work of Mme. Boivin and Dugès, deserves a place here.

Dropsy of the Ovaria, followed by Rupture, and accompanied by complete Prolapsus of the Uterus, of the Vagina, and of the Bladder.—Post-mortem examination.

A woman 50 years of age, a dealer in vegetables, had been subject for a year to prolapsus uteri, for which she had been obliged to use the pessary. In fifteen days the pains in the neighbouring parts became insupportable. This prolapsus had been preceded by pains in the iliac regions, and progressive enlargement of the abdomen. The tumor, of an oval shape, and about the size of the fœtal head, presented on its exterior surface the mucous membrane of the vagina. It was reddish, and in many places much ulcerated towards the base. Towards the summit were some circular folds, and near the pubes was seen the meatus, through which the urine passed when the tumor was pressed. It was evident that the prolapsus was owing in a great measure to an unnatural enlargement in the abdomen. The uterus had been to the last moment supported by a suspensory bandage. The overflow of urine was not the only cause of the ulcerations near the orifice of the cervix uteri, for the patient had also involuntary alvine evacuations. On pressing the tumor I evacuated the bladder, and easily replaced the whole within the pelvis. I endeavoured to support the organs with a tent, but they again protruded in about two hours. They were then merely confined in a waxed cloth to secure them from external injury. After some time, the patient complained of violent pains in the left side, which increased so much, that she died, uttering piercing cries.

A copious effusion of sanguineous fluid was found in the peritoneum. A voluminous reddish-brown cyst presented traces of a recent rupture, which explained the agony felt at the last moments; it was formed by the left ovarium; the right ovarium, as large as the fœtal head, contained a blackish tenacious fluid. The tissue of the cysts was of unequal thickness and consistency: the thickest parts were soft and friable under the finger; the thinnest, two or three lines in thickness, were fibrous and solid.

The posterior surface of the bladder adhered entirely to the anterior parietes of the vagina, and consequently descended in the prolapsus. A little gravel was mixed with the urine. The uterus, otherwise healthy, was placed horizontally beneath the bladder: its fundus behind, and its cervix before, adhered to this organ: the edges of the os uteri were effaced and surrounded with ulcers.

We again state, as a result of this protracted inquiry, that the bland albuminous substance which generally follows, may with impunity be effused into the peritoneal cavity. We have seen that fatty matters may be lodged for a long time; but blood and pus generally give rise to fatal peretonitis. With regard to hydatid bodies, which would appear to be so harmless, we believe them to be noxious to the peritoneum. This is likewise Cruveilhier's opinion.

Roux had a fatal case of *hydatids* emptying themselves into the abdomen. Sir Phillip Crampton's case, wherein death suddenly took place after paracentesis, was a case of *hydatid ovarian* cyst. Dr. Bright thinks that, under certain circumstances, the effusion of the hydatid into the peritoneal cavity is not always followed by a fatal result; and that he once observed a case of this description in a lad; but in two other cases, death speedily followed the accident without *any trace of inflammation being distinguishable on inspecting the bodies.*

But with regard to the darker descriptions of ovarian contents, particularly when mixed with cheesy matter and hair, death is the result; although the following case will again show that there is no rule without an exception. The case is therefore the more valuable, because it is attested by the heads of the obstetric and surgical department of the profession, and shows that matter, *like dark pea-soup*, has repeatedly effused into the peritoneal cavity.

Dr. Locock informs me, that he has at present under his care, with Sir B. Brodie, a female about 50 years of age, in whom the ovarian cyst has burst several times. About a year and a half ago, long before any tumor was discovered, she had about once in six weeks an attack of violent abdominal spasms, of the same nature as those which have since clearly been connected with the bursting of the cyst. These attacks became gradually more frequent, latterly once in three weeks. The first discovery of the tumor was about six or seven months ago,—a globular elastic tumor of the size of an orange; but previous to this being felt above the pubes, a very distinct elastic tumor was perceived on examination by the vagina. Suddenly, spasms came on as before, and the tumor has gone; which led Dr. Locock to think it was not an ovarian cyst, as he had previously called it, but only a collection of flatus in the bowel, as great eructations and general distension always followed the attacks. After several repetitions of the rise of the tumor gradually, the spasms, and the dispersion, it was noticed that the tumor became larger and larger at each attack. Then Sir B. Brodie detected, after the dispersion, slight fluctuation in the abdominal cavity, which soon disappeared. The next time it filled, being then the size of a shaddock, they punctured it with a very fine trocar, and drew off a few ounces of blood exactly like dark pea-soup. After this, firm pressure was tried for a week or two over the tumor; but she could not bear the pain it produced. Since this, the same alternate filling, bursting, spasm, and disappearance, have returned at still shorter intervals, and recently her health has began to fail.

We have seen that in most of the fatal cases death was the result of peritonitis; but in several in which the bodies were opened little or no trace of inflammation was found. In such cases it was not the acute peritonitis which carried off the patients, but a sudden *prostratio virium*, from which they could not rally; like that sinking on the removal of an accustomed load, which depression would soon terminate fatally if the abdominal viscera were not again artificially subjected to pressure, similar in its effects to the concussion on the epigastric region, which kills as effectually, and more speedily, than a blow on the temples, which kills like a thunder-stroke.

Infiltration of the Contents of an Ovarian Cyst into the Cellular Tissue.

The termination in anasarca is extremely rare. In one of our own cases, and in two of those recorded, there has been great swelling of the lower limbs; but we only know of one case of anasarca, which we will give in the terms in which it was conveyed to us by an eminent practitioner, Mr. Eager, of Guildford:—

On referring to the history of the case, I find that the rupture of the sac occurred on the 12th of November, 1845, and that my report appeared in the Lancet on the 28th of the following February, more than three months from the date of the accident, at which period no indication of a return of the disease manifested itself, nor did it do so until September in that year; then, however, the cyst began gradually to refill, and had attained a large size by the subsequent Christmas (*i. e.*, of 1846), when it burst

a second time; but upon this occasion, unlike the former one, no fluid was extravasated into the peritoneal cavity, but became diffused throughout the cellular tissue of the entire body, inducing general anasarca, a condition which was only removed after the lapse of three weeks or a month. The only solution I can give of the cause of this anomalous circumstance is, by supposing that the cyst must have become adherent to the peritoneal lining of the parietes of the abdomen, on the occasion of the previous rupture, and that the second escape of the fluid must have taken place at the point of adhesion, and so have infiltrated into the cellular structures upon the surface of the body. A month had not elapsed from the time of the second rupture before the abdominal structure again presented itself a third time, and enlarged with such rapidity, that by the beginning of March 1847 it had occupied the entire abdominal cavity, producing much inconvenience by its pressure on the diaphragm and adjacent viscera. At this time the patient (one of a medical family) accidentally obtained a sight of the Provincial Medical and Surgical Journal, in which she read the record of the history of a case of Ovarian Dropsy successfully treated by a NOVEL *surgical operation*, by Mr. Bainbrigge, of Everton, near Liverpool, and Surgeon to the Northern Hospital in that city. She at once became extremely urgent to place herself under his care, and in the fruition of this wish she went to Liverpool, in March 1847. On the 15th March, Mr. Bainbrigge performed the operation (at which I was present) under the most favourable auspices. She soon rallied from its immediate effects, and for nearly a month went on most favourably; but unfortunately, during her convalescence, was attacked with diarrhœa of a most extreme and obstinate character: ulceration of the descending colon supervened, and she sank from exhaustion, on the 20th April, 1847.

Anxious that there should be no doubt respecting so singular a case, I wrote to Mr. Eager, to express my own doubts, and the following remarks seem quite sufficient to warrant his explanation:—

You ask me "What were the signs observed which convinced you that a second rupture of the cyst took place on the occasion of the appearance of the anasarca?" My reply is as follows:—

The anasarca (as I believe I mentioned in my former letter) came on gradually, and had not attained its fullest development until after the lapse of three or four days. It was neither concurrent with, nor preceded by, any of these causes commonly productive of such effusions. The circulatory and respiratory functions were perfectly unembarrassed, except inasmuch as the latter manifested that amount of inconvenience which always arises from the pressure of an ovarian tumor eliminated in the abdomen; none of the viscera gave indications of being in an abnormal condition, so that I was obliged to refer the presence of the effusion to some cause extrinsic to any of these. Beyond these circumstances, too, as the anasarcous condition increased, the abdominal tumor diminished, and subsequent to the complete absorption of the effused fluid no vestige of the ovarian cyst could be discovered, by the most minute and careful manipulation, until its re-enlargement commenced. With such testimony, and the reasoning founded upon it, I was led to the conclusion that the ovarian cyst must have ruptured, and that the anasarca was the consequent result. Furthermore, I think it may be fairly presumed, that on the occasion of the previous rupture (about which there can exist no ambiguity), adhesions were formed between the surface of the cyst and the peritoneal coat covering the muscles of the abdomen, and that at some point so circumstanced the second rupture had taken place, and so by this road, the contents of the cyst found their way into the cellular tissue of the body.

Effect of Ovarian Tumors on the Skin.

As in pregnancy, when the tumor is very large the skin becomes distended, emaciated, marked by numerous scars, and often by a great developement of veins. Whatever may be the dimensions of the tumor, it generally follows it by a proportionate distension; but the cyst has been known to burst the abdominal walls: and, in a late discussion, Mr. Nunn mentioned having (in a provincial hospital) seen, a few months ago, a patient in whom this rare occurrence had happened. The rent was in the linea alba, was four inches in length, and was healing when Mr. Nunn saw the patient.

Not satisfied with the outlets afforded by the natural cavities of the body, ovarian cysts are sometimes seen to open directly by the skin. The means by which this opening is effected are similar to those we have already seen employed. The corresponding folds of the peritoneum placed between the cyst and the skin inflame and unite; ulcerative inflammation then burrows an opening through the connected tissues, and the contents of the cyst are poured out of the body without passing through any intermediate organ. Cases of this kind are, of course, to be considered exceptional; but there about fifteen instances of such an occurrence; and, as such cases are examples of the spontaneous cure of a disease which we find difficult to manage, and as they serve to illustrate and warrant a plan of treatment which we have elsewhere laid before the profession,* we shall record some of the most interesting:—

A woman with an enormous enlargement presented herself to Dr. Mead, in the hope of obtaining relief. Dr. Mead declared the disease to be incurable, and observing the strength to be greatly impaired, did not think the operation of paracentesis advisable. A few days afterwards, on hearing that she was still alive, he visited her, and found two vessels, one holding twelve, the other six pints of fluid, which had escaped by a rupture of the sac through the umbilicus, on two succeeding days. The patient recovered, and, as we are not informed that the fluid collected again, it is fair to infer that the cure was complete.

Dr. Seymour (Diseases of the Ovaries) has published the following case, furnished to him by Dr. Locock:—A woman, fifty years of age had suffered for several years from an enormous encysted dropsy, springing apparently from the right ovarium. A fistulous sinus had formed at the right of the umbilicus, from which the fluid constantly dropped when any increase of the secretion greater than usual occurred, and thus the distension, otherwise considerable, was relieved.

Dr. Bright (Guy's Hospital Reports) gives the case of a lady cured by an abdominal opening and permanent fistula. After two years' illness, the patient was tapped, and six and a half gallons of glutinous fluid, of the colour of mustard-whey, were removed. Two months afterwards another pailful was discharged through the former opening, which had gathered, and burst of its own accord. A few months afterwards a fresh opening took place in the same spot, and about the amount of a washing bason was discharged. The tumor might be traced in the left iliac fossa, but there was no fluctuation. "Where the puncture was made a vascular excrescence arises, as large as a small bean, from beneath which a fluid distils, so as to keep the napkin constantly moist. It is clear and slightly mucilaginous, and, according to an analysis made by Dr. Rees, it agrees very closely with the fluid contained in ovarian cysts. The patient has been in a comparatively good state of health for more than four years."

Dr. Lansbrecht (Medicinische Zeitung, No. 30, 1844) has published the case of a woman, aged twenty-eight, who had suffered for two years from dropsy of the right ovary. When the swelling had increased to a great size, the parts around the navel began to get hard, the navel itself projected, and finally gave way; upon which, and for a long time afterwards, there followed a discharge of purulent lymph, accompanied by a notable and progressive diminution of the abdominal enlargement. Shortly after her recovery, the woman married, became pregnant, and gave birth to a strong boy. After delivery, the abdomen did not shrink in the usual way; by and by, on the contrary, it increased again in size. The increase was found due to an ovarian dropsy, which went on augmenting, and at length terminated in the formation of an abscess, as in the former case.

Munro (Essais d'Edinbourg, tom. vi., p. 409) saw the contents of an ovarian cyst make their way through the groin, and cure take place.

Sir Astley Cooper relates a remarkable instance in which the navel ulcerated, and large quantities of water were discharged for a considerable time, but ultimately closed, and the disease did not return.

Dr. Ramsbotham (LONDON MEDICAL GAZETTE) relates that his father was summoned to see a maiden lady, aged forty, in consequence (as was related to him) of the abdomen having burst. He found the room in which she lay deluged with aqueous fluid that had issued from an ulcerated orifice of the umbilicus. The patient was exhausted, and in imminent danger. A bandage was applied, and cordials were given: she rallied, and lived for eight years. Dr. Ramsbotham promised to give in another lecture the details of the post-mortem examination, but I have searched in vain for them.

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* On a New Mode of Treating Ovarian Dropsy, by E. J. Tilt, M.D.—*Lancet*, 1848.

Mr. S. Tuton, of Ripon (American Journal of Medical Science, 1844), gives a case, too long to be related, where a woman who had been suffering from ovarian dropsy for years, and repeatedly tapped, was radically cured by the sudden bursting of the umbilical tumor and a prolonged use of ioduret of iron (from two to four grains a day).

Dr. Henry Davies (LONDON MEDICAL GAZETTE, vol. xxiv. p. 360) records a case of ovarian cyst, where the integuments burst at the umbilicus, and discharged a thick red fluid, to the great relief of the patient. The discharge continued for seven years, during which the general health was good; it then closed. Two years after, the patient died of apoplexy.

Mr. Douglass, of Glasgow (LONDON MEDICAL GAZETTE, vol. xxv. p. 396) relates a case of ovarian dropsy, with a bursting of the umbilicus. The woman died two months after of peritonitis.

Mr. Anderson (Edinburgh Medical and Surgical Journal, vol. ii. p. 180) has given a case in which spontaneous opening took place at the umbilicus. The discharge from the cyst lasted nine months, and the tumor gradually disappeared. The patient died of general cachexia, in which state she had been lingering for a long time previous to the occurrence of the opening.

In the Dublin Quarterly Journal, vol. i. p. 519, it is stated that Dr. Montgomery had seen three cases in which ovarian cysts discharged their contents through the parietes of the abdomen. He does not state what the final results were; but had they been fatal, the circumstance would probably have been mentioned. A similar case is also alluded to as being at the time (January 6th, 1843) in Dr. Stevens' Hospital, Dublin.

Dr. Ingleby (The Lancet, vol. ii. 1839-40, p. 12) relates a case of ulceration through the abdominal parietes, by which an ovarian cyst emptied itself. There was a discharge for some time through the opening, followed by a permanent cure.

CASE C.—Dr. Granville (Edinburgh Medical and Surgical Journal, vol. xlvii.) gives an account of an ovarian tumor observed by him in a woman far advanced in pregnancy. He succeeded in pushing the tumor above the womb, and confined it there by a bandage. After the birth of the child the patient was discharged, the tumor still retaining the place where it had been confined by the bandage. Three weeks subsequent to confinement she returned for advice. "The tumor was found red, acuminated, throbbing, and slightly fluctuating. After two days the swelling broke, and a large quantity of white thick pus flowed from the opening, followed by a cyst composed of a white membrane of great consistency, which, when filled with water, might have been compared in size to a full-grown fœtus, having an opening of the same diameter as that made in the abdominal parietes, through which it had escaped. Several smaller capsules followed the larger one, of a brownish colour, dense, and entire, containing no fluid whatever, and presenting none of the characters of hydatids."

I cannot agree with Dr. Granville, and consider the large cyst as the parent, and the smaller capsules as hydatids whose vitality had been destroyed and texture modified by acute inflammation. The parent cyst, being evacuated entire, is exactly similar to what has frequently occurred in other cases of hydatid cysts.

Thus we see that it is by the umbilicus that the opening generally takes place; no doubt owing to the diminished resistance of the abdominal walls in that region; and in all these modern and authentic cases we find that the opening was small and sinuous, and that the discharge was generally gradual,—a useful example set us by nature, teaching us to make the smallest possible opening, if we wish to allow the continual egress of the liquid contents of such cysts. We have succeeded in effecting this small opening by the application of Vienna paste to some spot of the abdominal parietes, and we have thus brought about the patient's recovery after a more or less stormy succession of symptoms. This plan of treatment has been lately successful in the hands of Mr. J. G. Wilson, of Bristol, and is wholly different from one proposed several years ago by Mr. Bainbrigge, of Liverpool, who made a two-inch incision into the cyst through the linea alba, and stitched the cyst to the parietal walls. This plan of treatment has been lately revived as a new operation, with a sad uniformity of fatal results in five cases. We said such cases are exceptional, but we believe them to have been of more frequent occurrence than is generally thought; and that most, if not all, of those cases given in old authors as cases of ascites, cured by the effusion of the liquid from the umbilicus, were cases of ruptured ovarian cysts. Morgagni, in his thirty-eighth letter, cites several of his medical predecessors "as not the first who had seen patients recover after having passed a large quantity of water by the navel. But was the water ascitic? We think not; for if ascites were formerly cured by a spontaneous tapping at the navel, it would in these days be cured in the same way.

Professor Recamier has often met with cases of ascites where the navel was so distended that the ascitic effusion was only protected by the thinnest pellicle of tissue. Several times he made a small opening with a lancet, but the result was always fatal, the patient dying of peritonitis, or more frequently from debility,—the result of the constant exit of peritoneal serum. This continual drain on the system from a natural cavity cannot be borne for any length of time; it weakens in the same way as bleeding does: whereas a greater amount of fluid may, with impunity, be subtracted from an adventitious cavity.

It appears that Carus (Gynaecology) assumes that he has repeatedly seen effusions from ovarian cysts into the peritoneum followed by the transmission of this same liquid through the abdominal walls. With due respect for a distinguished name, we think that, in those cases, as in the preceding, the fluid never entered the peritoneal cavity, but was poured out from the cyst on the surface of the skin; and we are strengthened in our belief by the assertion made by Carus, that the accident was only followed by temporary relief.

York Street, Portman Square.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 21, 1851.

It is clear that no medical reform measure can give satisfaction to the profession, which does not duly regard the rights, privileges, and interests of *all* its members whether physicians, surgeons, or general practitioners. It cannot be permitted that any measure likely to produce retrospective injustice should pass into law,—nor is it to be expected that a new College, consisting of General Practitioners, will be incorporated by even the most liberal Government, if the necessary result of such an incorporation be that of overthrowing the Royal Colleges of Physicians and Surgeons. This journal has among its subscribers and supporters, physicians, surgeons, and general practitioners; and in criticising the terms of any measure proposed for the reform of the profession, the interests of all classes have an equal claim on our consideration.

It is our belief that the so-called "General Practitioners' Bill" is the bill of a small number, and that many have lent their support to it without a due examination of its clauses, and solely upon the statements of others, who themselves probably are not fully aware of the mode in which these clauses would operate if the bill were at once enacted into a law.

We last week published the recent resolution of the Royal College of Surgeons of Edinburgh, according to which that body proposes to afford its support to the introduction of a measure for the incorporation of a new College. If this resolution be practically carried out, the Edinburgh College will, we do not hesitate to say, act in direct opposition to the feelings and wishes of the large majority of English practitioners. They will also, it appears to us, be guilty of gross inconsistency, and lay themselves open to a charge of being influenced by interested motives.

In the first paragraph of this resolution, the College regret the failure of a general measure of medical reform proposed by a Conference representing all the great interests of the United Kingdom. Now this "general measure" comprised *inter alia* the foundation of a *new* College of General Practitioners, by which alone the examinations for practice were thenceforth to be conducted. The second paragraph, however, involves a different sort of regret: we here quote it, because it includes, not merely a contradiction, but, as far as we are acquainted with the facts, a mis-statement.

> "That the College, having been long familiar with the successful working in Scotland of a system under which the qualifications of the general practitioners of the country have been conferred by the existing great medical incorporations there, regret that a similar advantage should not have been bestowed upon England under the auspices of the Royal Colleges of Physicians and Surgeons in that division of the kingdom."

If this means anything, it clearly implies that the Edinburgh College regret that the qualifications of the General Practitioners of England are not tested by the English Royal Colleges of Physicians and Surgeons. We share in this regret: but how are we to reconcile this sympathy of the Edinburgh College with their simultaneous lamentation over the failure of a measure which practically abolished the two Royal Colleges, and involved the foundation of a new Institution inferior in title and professional position? As we take it, had the Conference-measure succeeded, the general practitioners could *not* have had their qualifications tested by "the existing great medical incorporations;" and consequently the Edinburgh College would have had just as much reason to regret its success as they now profess to have in deploring its failure. The Resolution therefore, contrary, probably, to the intention of those who drew it, has a Janus-like aspect:—the first paragraph exactly meets the views of those gentlemen who advocate the establishment of a new College, and who would look complacently on the destruction of our two ancient institutions; but the second paragraph is, to the majority of English practitioners, reassuring, inasmuch as it points to the almost absolute necessity of making use of "the existing great medical incorporations" in preference to the foundation of a new College. It is true that a subsequent paragraph appears to qualify this statement; but it does not remove the inconsistency, nor does it afford any explanation why the failure of two incompatible and adverse schemes should be equally regretted.

There can be no doubt that, if any change be really introduced into our present system, the plan of instituting an examination by the two English Colleges is by far the more reasonable. It was, if we mistake not, strongly recommended by the English College in their letter to Sir George Grey; and, while it appears to be greatly approved by the Edinburgh College, it is stated in the resolution that the system (i. e., of testing the qualifications of general practitioners by the existing great medical incorporations) has worked successfully in Scotland,—a statement which appears to us irreconcileable with the practice pursued in that country. We were not before aware that Scotch (general) practitioners are compelled to go before two Colleges—i. e., of Physicians and of Surgeons—previously to commencing practice. On the contrary, we had supposed that each Incorporation gave its license to practise irrespective of other institutions—*e. g.*, that the Edinburgh College of Surgeons examined candidates for its diploma in medicine, pharmacy, surgery, and midwifery, and granted them a license to practise *generally*, without requiring them to have their medical and pharmaceutical knowledge subsequently tested by a College of Physicians or a University. If we are correct in this view, the system which the College wish to have established in England has not even been tried in Scotland, and therefore cannot be said to have worked successfully.*

With regard to the decision of the Council of the Royal College of Surgeons, referred to in the third paragraph, there appears to be some misapprehension. From all that we can ascertain, the Council of the English College have always insisted on their right to retain the privilege of examining in *Surgery*. So long as the delegates of the Institute did not specify their intentions on this point, matters went on smoothly. The claim to examine in Surgery on the part of the proposed new College, was not made at the Conference, but in the Committee of the Commons, and indignantly repudiated the next day by Mr. Travers, the President. The College had not consented to divest themselves of this privilege, and to hand it over to other untried men. Such an act would have been suicidal, and an abandonment of that position which they hold not merely with the profession, but with the public of the United Kingdom.

We infer that the English College would not oppose the foundation of a new College of general practitioners, if such were the wish of a majority of the profession and of the Government; but they would resist, and we believe successfully, the transference of their right of *examining in surgery* to a mixed medical and pharmaceutical establishment. The advocates of the proposed Bill are not satisfied with superseding the Apothecaries' Society, and examining and licensing candidates in medicine, pharmacy, and midwifery, whereby much good might be accomplished; but they insist on practically extinguishing the College of Surgeons also, and of substantially withdrawing from them a privilege which they have long enjoyed with honour and credit to themselves and the country. Mr. Wyld, and his friends who adopt this measure, insist upon having all or nothing; and because *surgery* is not conceded to them, they get up an agitation against the English College of Surgeons, representing it as the only obstacle in the way of medical reform, or rather revolution. It is concealed from the public and the profession that a most unreasonable claim is made upon the College, to surrender into other, and, we believe, far less experienced hands, the privilege of examining candidates in surgery.

Much has been said regarding reciprocity of privileges; but it does not require a new College to secure this. All the existing medical corporations are quite ready to concede it on the same principle as the advocates of the new Bill—*i. e.* provided there be equality of education and examination.

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* In the published accounts of the examinations at the Edinburgh College of Surgeons, we find it stated that every candidate, at the commencement of his examination, will be required to translate into English some portion of a Latin author. 2. Every candidate is expected to possess such a knowledge of drugs, and of the art of prescribing, as to be able to name particular substances that may be exhibited to him, and to write out formulæ for their administration. Nothing is said of examinations in surgery and *medicine*, but we presume these are not omitted. The diploma costs *ten* pounds. In a parliamentary paper now before us, issued in 1845, we find the following statement as to the privileges conferred by it:—"The holders of this diploma (of licentiate), though possessing no ulterior statutory privilege, have been, by the custom of the country, received as (general ?) practitioners of these arts (anatomy, surgery, and pharmacy) in every part of Scotland, and, till the passing of the Apothecaries' Act in 1815, in every part of England except London." From this it clearly appears that the Edinburgh College licenses its candidates for *general practice* without calling in the aid of any College or University. What, then, is meant by the successful working of a system which practically does not exist? The Edinburgh College exercises the functions of the Royal College of Surgeons and the Apothecaries' Society in England. The diplomas of these two bodies involve a double examination before two Boards, and a cost, at the least, of *twenty-seven pounds.*

It is with regret we find that the Edinburgh College give even their qualified support to a measure which would *general-practitionerize* all England. Physicians and surgeons would be swamped, and even many who practise medicine and surgery, and who occupy the honourable position of surgeon-apothecaries, would, if the Bill became law, be bound by the details of a measure which, when fully understood, they would utterly repudiate. Let us imagine a small section of Scotch practitioners getting up a case against the Edinburgh College, and insisting upon having their privilege of examining in *Surgery* transferred to a new incorporation. The Fellows would, we think, be strongly inclined to protest against this revolutionary mode of proceeding, and would act like the English College—*i. e.* resist to the utmost this aggression on their rights.

The present solutions of the difficulty, so far as the examination and licensing of candidates are concerned, appear to be these:—

1. The creation of one new College of General Practitioners, to examine in Medicine, Surgery, Pharmacy, and Midwifery, and the destruction of the Royal Colleges of Physicians and Surgeons, as well as of the Society of Apothecaries.

2. The creation of a new College to examine in Medicine, Pharmacy, and Midwifery, as a substitute for the Apothecaries' Society; the present College of Surgeons retaining the power of examining and licensing in *Surgery*,—this examination henceforth to be compulsory, and not optional as at present.

3. The abolition of the Apothecaries' Society, and the power of examining and licensing in Medicine and Surgery reserved to a Board formed of the Royal Colleges of Physicians and Surgeons.

The last proposition is, we believe, that which would give the greatest satisfaction to the profession. It might be accompanied with similar changes in Scotland and Ireland, including reciprocity of practice under, as nearly as possible, equal education and examination. The two English Colleges would, we doubt not, be ready and willing to take this duty upon themselves. Such a plan, if carried out, would dispense with the creation of a new College of General Practitioners, and put an end to the ambitious views of the few who are connected with it. Some may be disposed to inquire why a plan so simple and easy of execution is not at once adopted? The answer is this:—We have only to drag in the subject of the reform of the Colleges by introducing the elective principle; by discussing the best method of constructing Presidents, Vice-presidents, and Councils; by insisting upon sweeping alterations being *simultaneously* made in medical polity and government, as well as in the rules regarding the obnoxious fellowship,—and the whole becomes a mass of confusion. The interests of the public in having well educated and duly qualified medical men, practising with equal rights and privileges in all parts of the kingdom, are wholly lost sight of. That medical education and practice should be at once regulated by law appears, in the eyes of some *quasi*-reformers, to be of far less moment than the possession of elective rights by members,—a reconstruction of the Fellowship question, and the determination of the exact number of general practitioners who should sit and vote at the College Councils. We do not see why such heterogeneous matters should be introduced into a question so important as the regulation of *medical education and practice* on a rational, well-defined, and permanent basis. Such a plan of combining matters so widely different, and necessarily involving such irreconcileable differences of opinion, can only have the effect of postponing, *sine die*, the interference of the Legislature even for carrying out those views on which nearly all professional men in the three countries are agreed.

Rebiews.

General Pathology, as conducive to the establishment of Rational Principles for the Diagnosis and Treatment of Disease. By John Simon, F.R.S. 8vo. pp. 288. Renshaw. 1850.

This interesting volume contains a short course of Lectures on General Pathology, delivered at St. Thomas's Hospital, which has been recently published in the "Lancet." These Lectures are now submitted to the profession in a separate form, with such further corrections and extension as the author's other engagements have allowed him to make during the reprint. We can truly say that this work presents an account of the doctrines of pathology both comprehensive and concise; and although, being chiefly intended for students, it is so far elementary, it nevertheless is perfectly on a level with the most recent discoveries and views of the science. The parts with which we have been most interested are those relating to morbid poisons and to cancer; and, as an example of the author's clear and happy mode of dealing with the subject before him, we shall quote a paragraph setting forth the mode in which the blood becomes contaminated in local disease, and subsequently lights up morbid action in distant organs by its general diffusion through the system:—

> "Sometimes the foreign materials thus introduced into the circulation are things having life, and susceptible of ulterior changes of their own; such as the growing germs of pus and cancer. In the practice of surgery, we very frequently have the opportunity of witnessing the effects of their presence in the blood, and the manner in which that presence is occasioned. In the progress of cancerous tumors, veins get laid open, often in such a manner that a portion of the morbid growth blocks the ulcerated opening of the vein, suffers the circulation for a while to pass on uninterruptedly, and from time to time sheds a batch of cells into the blood which washes over its surface. Suppose this to be a systemic vein, and you will know that presently this blood, with cancer-germs suspended in it, must reach the right side of the heart, and thence be transmitted to the lungs: there, in capillaries which are adapted only for the corpuscles of the blood, the larger foreign cells are at once arrested, as on a filter, and become the nucleus of secondary cancerous growths. Similarly with pus, suppuration may have occurred in some tissue which (like the cancellated structure of bone) abounds with large veins, and some of these may have ulcerated, and have given entrance to the pus-cells; or, in another case, the vein may itself have been the seat of suppurative inflammation, and have suffered the products of this process to make way through the lining membrane into the blood; or, as very frequently happens in surgical operations, large veins may have been freely opened in immediate connection with surfaces likely to undergo acute suppuration; or (as I have seen in two instances) a small abscess in the muscular substance of the heart may discharge itself into the auricle or ventricle; or, finally (as I have lately had occasion to witness), there may be the passage of pus from diseased lymphatics into the thoracic duct, and thence into the subclavian vein;—and then, whether the admission of pus into the stream of blood have arisen in one way or the other, the results are uniform: the pus-cells are larger than the blood-corpuscles; they consequently become fixed in the smaller capillaries at which they next arrive, and give origin to what are called secondary abscesses."

In considering the signification of the fibrin of the liquor sanguinis, Mr. Simon takes the side of those who, like Dr. Zimmerman, maintain that, so far from being the pabulum of nutrition, it is the result of the waste of the tissues, representing their debris absorbed into the blood, and on their way to excretion. In proof of this he observes that the amount of fibrin, so far from being diminished even by repeated bleedings, is generally increased thereby. So also under many other circumstances of weakness, as during the progress of starvation, and in diseases essentially anæmic, its proportion has been found as high as in the inflammatory process, and perhaps even higher. Andral and Gavaret, in the course of their experiments on the blood, ascertained that an improvement in the breed of an animal tended to increase the proportion of red globules, while at the same time the amount of fibrin was diminished. The same inverse ratio, the author observes, is supported by the facts that there is little or no fibrin in the blood of the fœtus, none in the egg, none in the chyme, and less in the blood of the carnivora (who feed on it) than in that of the herbivora. Mr. Simon therefore thinks the inference unavoidable that the fibrin is an excrementitious product derived from the waste of the tissues and the oxidation of the blood, which is in process of elimination from the body.

> "This conclusion, carried into the domain of pathology, would lead us to suppose that an augmented proportion of fibrin in the blood (whether occurring in active disease or within the limits of apparent health) can be taken as an indication only of increased labour and waste of certain elements of the body, not as an increased development in the resources and nutrition of the blood: and, on the same grounds, it would appear that a superfibrination of the blood, in a certain inflammatory disease, must be regarded as a consequence and effect of the disease, not as their cause, and not as a primary affection" (p. 51).

In conclusion, we may fairly recommend this book as the work of a sagacious and clear-thinking pathologist; and we doubt not that it will prove equally acceptable to the student and to the practitioner.

The Identity or Non-identity of Typhoid and Typhus Fevers. By William Jenner, M.D., Assistant-Physician to University College, London. 8vo. pp. 102. Churchill. 1850.

This knotty question in the practice of physic puts us in mind of many old physiological disputes with which, as students, we were expected to be familiar. On either side are ranged a host of respectable names; so that, take which side we will, we have no difficulty in supporting our views with high authority. Dr. Jenner, however, has felt with others that this is a question not to be settled by the weight of authority, but by the weight of honestly recorded cases: and we may add that he has condensed into the compass of this small volume a vast amount of careful and laborious investigation.

The object of this book, then, is to solve the problem—"Is the primary affection in typhoid and typhus fevers identical?" The basis of the argument rests on 66 fatal cases of fever, occurring in London, in all of which a post-mortem inspection was made. These cases are arranged by Dr. Jenner in two groups: in the one, representing typhoid fever, are placed cases where Peyer's patches were diseased; in the other group, representing typhus, are placed cases in which these glands were healthy—at least, in so far as the unaided eye could determine. Having thus arranged his cases, the author proceeds, by a careful and minute interrogation of nature at the bed-side, to inquire if these groups be varieties merely of one disease, or two distinct diseases. The data thus obtained t up the book; and the conclusion a which he arrives is, that, differing as they usually do in most essential points, they are distinct diseases—as distinct, for example, as measles and small-pox.

To examine the evidence here adduced in a manner worthy of the mode in which Dr. Jenner has treated the subject would require an essay not much shorter than the book itself now before us. At the same time, we must confess that, to our minds, the question still remains undecided. The data brought forward are strong and positive so far as they go; but they do not c terate data, also very positive, brought forward by most trustworthy observers on the other side. Many writers may be referred to in proof of this; and we suspect that most who previously differed from Dr. Jenner in their opinions respecting the identity of the diseases will be "of the same opinion still." We shall now place before the reader some of Dr. Jenner's views on the subject.

Respecting the most favourable field for making observations to settle the question, Dr. Jenner remarks:—

> "London alone, of all the cities of Europe, from the fact of fever with and without intestinal disease being almost constantly present within its bounds, afforded a field for observation capable setting the vexed question at rest.

"In Edinburgh, writes Dr. Christison, the intestinal lesion is seen often enough to prevent physicians being ignorant of its characters. In Dublin it appears to be equally unfrequent; while, on the Continent, fever without lesion of the agminated glands is so rare, that many eminent practitioners have doubted the existence of such an affection.

"The London Fever Hospital, by collecting within its walls cases of continued fever from all parts of the great metropolis, offered peculiar facilities for its study" (p. 4).

One of the strongest and most tangible points of distinction between typhoid and typhus fevers is the character of the eruption. Dr. Jenner says:—"The difference in the appearance of the eruption in the two diseases was as great as it well could be, considering that both were of a reddish hue." The character of the rose-eruption—*i. e.*, typhoid, or where Peyer's patches were diseased, is thus summed up:—

"1. Rose spots were detected during the progress of all the cases admitted before the fourteenth day of the disease.

"2. The spots usually appeared between the seventh and fourteenth days after the first symptoms of the disease showed themselves.

"3. The ordinary duration of each spot was three days.

"4. Fresh spots generally appear every day or two after their first eruption, till from the twenty-first to the thirtieth day.

"5. One case relapsed, and in that fresh papulæ appeared every day or two till the twenty-fourth day; then no more were seen till the thirty-seventh day, after which fresh spots were again noted daily till the forty-ninth day, reckoning from the first outset of the disease.

"6. The fever terminated by the thirtieth day, as proved by no fresh spots appearing after that day, unless in the case of a relapse, and by the presence of local complications sufficient to account for death in all cases that proved fatal after that date" (p. 14).

We must here remark, that this coincidence of ulcerated Peyer's patches with a rose-coloured eruption, has not always been observed by other physicians: sometimes, indeed, the contrary has been distinctly noted on a large scale. Dr. Watson, for example (Lectures, vol. ii. p. 691) thus writes:—

"The difference is very striking between the kind of fever that I observed in London for ten years before the arrival of the spasmodic cholera in this country, and the kind of fever that has since prevailed, and is now (1838) so rife around us. During the first of these periods . . . . there was no eruption to be seen upon the skin: the glands of Peyer, according to my own experience of the fatal cases, were almost invariably affected."

With reference to this point, Dr. Watson further remarks:—

"The inverse relation between the rash and the intestinal ulceration is remarkable. When the one is prevalent the other is rare. It would seem, in conformity with Dr. William Budd's views, that the specific poison displays its elective affinities by settling sometimes upon the mucous glands, sometimes upon the cutaneous tissues, and sometimes by sharing itself, though unequally, between the two."

The characters of the mulberry rash peculiar to typhus are thus summed up:—

"1. The mulberry rash was present in all the cases.

"2. The rash usually appeared from the fifth to the eighth day of the disease.

"3. Fresh spots never appeared after the second or third days of the eruption.

"4. The duration of each spot was from its first appearance till the death or recovery of the patient from the attack of typhus.

"5. The rash disappeared between the fourteenth and twenty-first days of the disease: when death ensued after the latter date, it was the result of local disease, which either complicated the progress of the fever, and continued after that had run its course, or sprung up anew, connected or not with the enfeebled state of constitution, the consequence of the fever.

"6. In no case was there any return of the eruption, and therefore no true relapse" (p. 17).

The confidence placed by Dr. Jenner in the character of the eruption as a means of diagnosis, seems almost justified by his assertion, "that for two years, in distinguishing the two diseases by the eruption alone, not a single error had been made, so far as could be proved by examination after death of the fatal cases, or by the progress of the non-fatal cases after their diagnosis was recorded" (p. 2).

A most important element of the inquiry—viz., whether one of these forms of fever can, under any circumstances, give rise to the other—has not been discussed in this volume, but has been fully considered by the author in a paper published in the last volume of the Medico-Chirurgical Transactions. In that paper the reader will find some valuable tables bearing upon this point, which have fully convinced Dr. Jenner that "the origin of the two diseases from distinct specific causes is as clearly proved as that scarlet-fever and small-pox arise from distinct specific causes."

It is less from any imperfection in the work itself than from the peculiar nature of the inquiry that we come to the conclusion that much still remains to be done before the question can be set at rest. Other works, modelled after Dr. Jenner's, extending through various epidemics in various countries, are still required for the purpose; and, if the results thus obtained should confirm the views advocated by Dr. Jenner, the chief merit will still be due to him as a principal pioneer in this most difficult investigation.

Instructions in the Use and Management of Artificial Teeth. By John Tomes, F.R.S., Surgeon-Dentist to the Middlesex Hospital. Small 8vo. pp. 94. London: Parker. 1851.

The author of this little work has recently published in a separate volume his instructive Lectures on the Teeth, which have already appeared in this journal. It has since been suggested to him that the separate publication of the last lecture, "On Artificial Teeth," would be serviceable to those who find it necessary to resort to artificial organs of mastication. The work before us consists of a revision of this lecture, with the addition of wood-cuts, and presents both to the professional and general reader an excellent description of the construction and management of artificial teeth.

De Cholera Epidemia Epistolam. Scripsit G. Gros. Pamphlet, 8vo. pp. 19. Heidelberg 1850.

This Letter traces cholera to the influence of *worms* in the intestines; and, by consequence, its cure to vermifuges! Kousso will no doubt be brought into use as a specific.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRUR GICAL SOCIETY.

February 11, 1851.

The President in the Chair.

A Case of Cæsarean Section. By H Oldham, M.D., Obstetric Physician, an Lecturer on Midwifery, &c. at Guy' Hospital.

The subject of this case was a rickety de formed girl, æt. 28, unmarried, pregn with her first child, and seven months g in gestation when first seen by Dr. Oldha On examination, the pelvis was found t be reduced to two inches in its conjug diameter, and the uterus was much ant verted.* The membranes were punct for the induction of premature labour a few days after she was seen, Sept. 2 1850. On the following morning the arm was found in the vagina, but lab did not come on until 9 A.M. on the In twelve hours the os uteri was dila and then some attempts to deliver were made. The child could not be tur but by drawing down the protruding which, from commencing decompo soon gave way, and pressing the abd from below, the head was brought ove brim, and was at once perforated. F four hours the crotchet was employed inside and outside the head, the bon which were completely torn up; but out drawing it through the brim. A time a new impediment was found to arisen, from the descent of the right ha and a foot by the side of the colla head into the pelvic brim; and on wat ing the effect of labour pains, all t parts were felt to be squeezed togethe the narrow inlet of the pelvis, each venting the other's descent. It was a tempted to bring down either the fo hand, but only the slippery tips of could be touched, and they could no moved. The patient had now been se teen hours in labour, and it became a q tion for serious consideration and con tation, whether she would be able to tain the necessary efforts for her deli and whether it would not be for her b to perform the Cæsarean section b exhaustion came on: which at length determined on. The operation was formed by Mr. Poland without diffi and with little hæmorrhage; the pati being under the influence of chloroform. The incision, five inches long, was slightly curved, and a full-sized seven months fœtus was removed, and afterwards the placenta and membranes. For two days the patient did well; but then exhaustion came on, and she died. While she lived she was kept under the influence of opium, and was sustained by simple cold drinks. On post-mortem examination there were some slight traces of peritonitis near the uterus. The external opening was closed, and its edges adherent; but the uterine incision was gaping. The larger omentum was indurated and inflamed, and so drawn across the uterus above the incision as to prevent any discharge from the latter organ escaping into the peritoneal cavity.

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* The skeleton pelvis was exhibited.

Two practical questions were suggested by this case—1st. What was the best plan to attempt to follow out in the delivery at first. 2d. Were the complications such as to justify the Cæsarean section.

With respect to the first, two plans of treatment might be adopted:—1st. To induce labour, and deliver by craniotomy. 2d. To allow her to go to term, and then perform the Cæsarean section. In determining in favour of the former, the author was guided by the great probability, with a conjugate diameter of two inches, of being able to deliver with the crotchet; and he considered that his inability to do so arose from the complex presentation.

With reference to the second, he was induced to have recourse to the Cæsarean section, from a conviction that the patient would probably sink under the prolonged efforts at delivery; and a case was related which occurred in the Lying-in Charity at Guy's, under Dr. Ashwell, where a woman with a far less contracted pelvis died undelivered, after the powerful and sustained efforts to relieve her. It was remarked that the girl had but a feeble constitution, which would ill support so hard a trial of its powers; and the condition of the vagina was particularly noticed, as retaining the marks of early age, being structurally weak, and easily lacerable, and most unfavourable for a long craniotomy operation. Under these circumstances the Cæsarean section offered a speedy and sure, instead of a prolonged and doubtful delivery; it was not yet forbidden from exhaustion or any signs of inflammation; on the score of suffering it contrasted most favourably with the persistence in the use of the crotchet; and, upon the whole, it was judged to offer a better chance of ultimate success.

The curve in the incision was suggested to catch the outline of the muscular fibres on the inner surface of the uterus, and so favour the closure of the wound. The scanty hæmorrhage in the operation was in a measure accounted for by the uterus being at the seventh instead of the ninth month; by the placenta being attached to the posterior wall, and the uterus being opened low down towards the cervix where the veins were less developed. Chloroform was said to be a gain in every way, and the after-treatment by opium appeared satisfactory.

After the reading of Dr. Oldham's paper,

The President said he considered it advisable that an abridged statement of Dr. West's paper should be read, for the benefit of those not present at the last meeting; which being done,

Dr. Murphy rose, and remarked that in the present instance it was very fortunate an adjournment had taken place, for that on the last evening, when Dr. Robert Lee came down to the Society with a written and prepared statement, it would have been impossible to have answered his observations at a moment. Dr. Murphy begged to recal to the recollection of the Society the course of argument pursued by Dr. Lee, who commenced by quoting Mauriceau, Guillemeau, and all the old writers, with whom Dr. Murphy knew him to be well acquainted: he had pointed out, he said, from their writings, the dreadful fatality of the Cæsarean operation, condemning its performance totally, and describing it as inhuman and brutal. From Mauriceau's remarks Dr. Lee explained that the operation was completely abandoned. Chamberlain, in his translation of Mauriceau's work, gave his powerful opinion against it; he stated that in Roman Catholic countries it became an ecclesiastical question, and that they (the ecclesiastics), considering the preservation of the life of the child in an important light, it was again revived. Dr. Murphy, in continuation, observed, that Dr. Lee had given the result of this operation in twenty-three cases, in two of which only the patient recovered; but on both these instances of recorded recovery Dr. Lee appeared to cast a doubt, and stated that there was not a single instance of recovery of the mother: he (Dr. Lee) had then drawn a parallel between the results of this operation and the induction of premature labour, and had asked why, with Mr. Wren's patient evincing symptoms of a diseased state of the bones of the pelvis, premature labour had not been induced. Dr. Lee next referred to a case of Dr. Rigby's, in which Mr. Skey had operated, and asked a similar question with respect to this case, and also as to a case of Dr. Simpson's, in which Dr. Lee stated that Dr. Simpson had seen the case. Dr. Murphy then recapitulated Dr. Lee's statement at the last meeting of the Society, with reference to Dr. Simpson's case, and protested against a Society formed for scientific purposes being made the medium of personal attacks on any member of the profession.

The **President** replied, that he did not consider Dr. Lee, in his statement on the last evening, as dealing in personalities.

Dr. **Murphy**, in continuation, said that the character of professional men depended on public opinion, and requested permission to give the history of Dr. Simpson's case, referred to by Dr. Lee. From the history given of it by Dr. Simpson, he (Dr. Murphy) considered it a most unique one, and similar to two he had himself met with in the Dublin Lying-in Hospital. Dr. Simpson's case, he said, was certainly one of distorted pelvis; and, in his history of it, he said "that there was excessive pelvic deformity—the sacrum almost straight—the transverse diameter of the pelvis exceedingly short; but that, from disease of the placenta and ovary, the bones of the child were so separated, that the fœtus represented a bladder filled with bones. The weight of the child was only three pounds two ounces; this, he says, was the result of putrefaction; and the bones of the head were all separated and flattened out, so that expulsion was perfectly easy." Dr. Murphy then reverted to Mr. Wren's case, in which Dr. Lee had also inquired why premature labour had not been induced. Dr. Murphy would, in return, ask why it should have been induced, for there was no outward deformity. The woman, he said, was able the day before labour came on to hang up curtains; and Mr. Wren had no grounds to say that she was labouring under mollities ossium. She was pregnant with her first child; and Dr. Murphy believed it was laid down in Midwifery that we have no right to induce labour in first pregnancies, for that no one can tell, in such cases, whether he can extract the child by forceps or crotchet; or whether the Cæsarean operation may be requisite. Dr. Murphy further observed, that Dr. Lee, in the 137th case reported in his Clinical Midwifery, claims priority for having induced premature labour in a first case; and he thought the Society should exonerate Mr. Wren from any blame in this case. Dr. Murphy would leave the other cases referred to in Dr. Lee's statement to be answered by the gentlemen concerned; but he had never heard a more objectionable mode of disposing of a question. It was not one in which a parallel could be drawn between the advantages of inducing premature labour over the Cæsarean section; for he considered no practitioner would run the risk of the latter operation when the former presented so many advantages, not only over this, but also over craniotomy. Dr. Murphy would ask Dr. Lee, entertaining as he did the opinion that the induction of premature labour was such a superior operation, how it happened that he had performed 127 crotchet operations, and had sacrificed so many children? the same argument applied as strongly in one case as the other. The question was not one between advantages of Cæsarean section and premature labour, but between the former and greatly deformed pelvis. He then referred to Mauriceau's celebrated case, in which Chamberlain tried his forceps, then quite a secret, and believed that the uterine perforation did not arise from the use of the instrument in this case, but from gangrene. Dr. Murphy next mentioned the cases of Mr. Barlow, Mr. Dunlop, &c., in which the women had died undelivered; and said that Dr. Meigs, in his treatise on Midwifery, mentioned a case in which it had occupied him days to deliver; and the same patient, in subsequent pregnancies, was twice successfully delivered by the Cæsarean operation. Dr. Murphy also alluded to the case of Mrs. Jervis, from Dr. Lee's Midwifery, whom Dr. Lee delivered with the crotchet in 1892; in 1833 he first induced abortion; again in 1835; and in 1836, from gradually increasing deformity of the pelvis, he was unable at first to rupture the membranes, but ultimately succeeded by means of an instrument made for the purpose. The child was delivered with difficulty, and the woman died from rupture of the uterus. Dr. Murphy, in conclusion, said in case of rickets it was sometimes impossible to extract the child by any means; and craniotomy holding out by no means a certainty of saving the life of the mother, was not the preservation of the child an important question?

Mr. **Wren** observed that the able statement of Dr. Murphy scarcely left anything for him to say; but the manner in which Dr. Lee represented the case of Mrs. Williams (Mr. Wren's patient) rendered it necessary for him to make a few observations. He wished to ask Dr. Lee if it was customary amongst his midwifery patients, without any very good cause, to seek for an examination: he (Mr. Wren) fully concurred with Dr. Lee, as well as all midwifery authorities, in the necessity of inducing premature labour when the symptoms were such in the early months of pregnancy as to cause a belief that pelvic deformity had existed, but the history of the case differed materially from what might be supposed from Dr. Lee's statement. Mr. Wren said his notes were brief, and altogether from memory, but he had not lost sight of the leading facts; the woman during her pregnancy was subject to faintings, and dreaded her confinement so much as to solicit the use of chloroform when labour came on. In January she complained of great nervousness; her pulse was quick, but, under treatment, the nervousness disappeared, and the general health improved during the following three months. In the month of March she complained of cramp, which the slightest exertion produced, and objected to allow Mr. Wren to examine as to the state of her heart, stating that Dr. Hamilton Roe had always pronounced it free from disease. Dr. Lee's remarks would lead, Mr. Wren said, to the supposition that he had frequently seen Mrs. Williams, but he never had an opportunity of seeing her in bed, although frequently desiring it, and on visiting her she always rose from the sofa without any lameness or awkwardness which would lead Mr. Wren to suppose that any pelvic deformity existed: he had felt some surprise at the statement made by Dr. Lee that she was unable to walk, &c. and trusted this history of the real facts of the case would exonerate him from all blame as to its results.

It being now ten o'clock, and several parties wishing to address the Meeting, it was proposed to continue the debate for three-quarters of an hour beyond the usual time.

Dr. ASHWELL, on rising, remarked that all Members of that Society had a similar object in view, and he felt convinced that, no matter what angry turn the discourse had taken, that both Dr. Murphy and all present would feel much interested in hearing any paper from Dr. Lee, but, with reference to the case brought forward, he (Dr. Ashwell) could only see one thing wanting, which was, that no regret was expressed for not having tried the induction of premature labour or some other expedient. Dr. Ashwell next mentioned the very great difficulties that had frequently occurred to himself in extracting the child, for that, even though the blunt hook may have been introduced, you may not know in what part it is placed, from the swelling and congestion present; but he, Dr. Ashwell, fully advocated the propriety of inducing premature labour at the 5th, 6th, or 7th month, in cases which, if allowed to go to the full period, might render imperative the Cæsarean operation. The actual performance of the operation, he said, presented no difficulty, but looking at its dreadful fatality, if in any case deformity was discovered even not at a sufficiently early period to induce premature labour, he considered the practitioner more justified in performing craniotomy and evisceration than the Cæsarean section.

Dr. TYLER SMITH remarked, that Dr. Lee's cases were generally like those of other practitioners. It occurred to him (Dr. Smith), that in Dr. Oldham's case perforation might have been made earlier, so as to have allowed of decomposition of the fœtus setting in, and a similar state to that in the case referred to by Dr. Murphy. When he had heard Dr. West's paper read, he considered it would have been better in that case to have performed craniotomy; there were some cases on record, in which difficulties which had presented themselves in the first instance were afterwards overcome. Dr. West's conclusions, it appeared to Dr. Smith, were drawn as to the causes of mortality after the Cæsarean operation. Dr. Lee, he said, had expressed himself strongly both on the induction of premature labour and abortion, but Dr. Smith did not consider the importance of the latter to be sufficiently recognised. Dr. Rigby, in his work on Midwifery, had written an excellent chapter on premature labour, but not on abortion. Dr. Murphy had not referred to abortion. Dr. Lee was perfectly right in bringing the matter to a discussion. The life of a fœtus Dr. Smith considered ought not to be put in comparison with the life of a mother, although Dr. Denman asked, should not the woman take her risk in a succeeding pregnancy if the operation had once been performed?

Mr. SKEY said, that, being in some degree involved in two cases in which the Cæsarean section had been performed, he felt it due to his professional reputation to prove that in neither case could he be charged with want of judgment or rashness. He then related that, in 1846, a case had occurred in which he had become unwillingly responsible: it was that referred to by Dr. Lee: the woman was in the seventh month of pregnancy. In this case he called into consultation all the eminent midwifery practitioners of the metropolis—Dr. Rigby, Dr. Protheroe Smith, Dr. Locock, Dr. Ferguson, besides at least twenty eminent general practitioners, whose opinions, he (Mr. Skey), considered just as valuable: in fact, he had lost no opportunity of showing the case to every medical man within his reach. What was the opinion given? 1st, to induce premature labour; 2nd, to perform the Cæsarean operation previous to the full period of gestation. Drs. Locock and Rigby, indeed all those whom he consulted, were of opinion that to anticipate the period would increase the danger. When the full period arrived, and pains came on, those practitioners with whom he had consulted all kindly assisted, and up to the last moment he had acted in strict conformity with their directions. The pelvic diameter was one inch and one-eighth. Would Dr. Lee in such a case have performed craniotomy? He entertained a high opinion of Dr. Lee, and hoped that the Society acquitted him of any imputation upon his professional reputation.

Dr. **Robert Lee** said that he regretted his absence at the commencement of the debate: on examining the pelvis referred to by Mr. Skey, he observed that the deformity was nothing like that of a case which had occurred in St. George's, where delivery was performed, premature labour induced, and the woman saved. The pelvis, Dr. Lee said, was much more distorted in this case; in fact, he believed one more distorted could not be produced. He was called to the woman at the full period, and delivered her: she again became pregnant: he was sent for, opened the head, and left her in labour: the woman recovered a second time. She being again pregnant, Dr. Lee induced labour at the fifth month, and on the third occasion after this, in which he endeavoured to act in a similar way, from the temporary loss of sensation in his finger from a dissection wound, Dr. Lee could not induce labour, but when he had done so the breach was presenting, which accounted for the result. Dr. Lee then said, out of the 127 cases of craniotomy referred to in his work, there were 23 deaths; were they all the result of the operation? Most certainly not. There were four cases of hydrocephalus with rupture of the uterus, and in many others death arose from uterine hæmorrhage.

Dr. **Murphy** here asked why Dr. Lee in those cases had not induced premature labour to save the life of the child.

Dr. **Lee** replied, there was no case in which he did not do so; that in cases similar to Mr. Wren's, premature labour should be induced at the 4th or 5th month. He said any one with a fore-finger could induce it at the 4th month, and if distension be too great to do so, craniotomy should be performed.

Dr. **West**, in addressing the Meeting, commented severely on Dr. Robert Lee having read his paper some days previous to its being brought before the Society, and then coming to the Meeting with a lengthened written statement, and making use of such powerful and condemnatory expressions. Dr. West then read some quotations from Dr. Lee's remarks, and considered from the history given of Mr. Barlow's case (which Dr. Lee considered a case of extra-uterine gestation) it appeared to him (Dr. West) a case of extreme tenuity of the uterine walls, to which there appeared a great predisposition in many cases, and here referred to Dr. Hull's case of Manchester. Dr. West next recorded some cases showing the success of the Cæsarean section, and in answer to Dr. Tyler Smith regretted the performance of craniotomy instead of Cæsarean operation. Dr. West considered that certain excessive deformities would leave no option between craniotomy and Cæsarean section. In bringing the history of this case before the Society, pointing out the dangers of this operation, he had not anticipated a discussion on the induction of premature labour: he (Dr. West) had not said anything about it; he did not consider the remark of Dr. Lee ("where he said he could not remain a silent witness to such cruelty and abomination") was such as he (Dr. West) should have expected, and when men at the present day were, by the most enormous difficulties and exertions, endeavouring to reflect credit on those who had gone before them, he trusted those remarks of Dr. Lee would be retracted.

The President was quite sure Dr. Lee merely meant, that feeling as he did individually on this subject, he had expressed himself as strongly as he had done, and that no personalities were intended.

Dr. **Oldham** should have felt glad, had time permitted, to have entered fully into the discussion, and in answer to the regret expressed by Dr. Ashwell that an attempt had not been further made at extirpation, he (Dr. Oldham) would not have felt justified in persevering any further, and where the Cæsarean section was necessary he considered it most advisable to perform it before extreme exhaustion had set in; and in answer to Dr. Tyler Smith as to the operation of craniotomy, Dr. Oldham said it was a case of transverse presentation, and he had attempted extirpation for beyond four hours.

The time allowed for the continuation of the discussion having expired the Meeting separated.

MEDICAL SOCIETY OF LONDON.

Dr. J. R. Bennett, President.

Feb. 1, 1851.

On Gonorrhœa.

Mr. Chippendale read a paper containing observations on some of the points connected with the cause and treatment of gonorrhœa. The author argued that in the majority of instances purulent discharge from the urethra was not the result of absorption of a peculiar animal poison produced by the female, but that the abuse of alcoholic stimulants, exposure to cold, &c., &c., were the real exciting causes of the disease known as gonorrhœa.

Gonorrhœa had been known to occur without contact with the female. A youth, sixteen years of age, was affected with a purulent discharge, which was proved to have been brought on by the practice of masturbation. A child, five years of age, suffered in a similar manner from the lodgment of a foreign body in the urethral canal. The author had examined women who were supposed to have given gonorrhœa to some of the patients of the Military Hospital in Paris, but did not discover any evidence of the disease in them. In many cases of gonorrhœa an ulcer existed in the urethra about an inch and a half from the meatus. The author advised the exhibition of large doses of copaiba and cubebs, combined with antiphlogistic measures, and enjoined the early use of these medicines.

Feb. 8, 1851.

On Phthisis.

Dr. Thompson read a paper entitled "Hints on *Morale* and Medicine as connected with Phthisis." In respect of the causes of phthisis, hereditary predisposition was one of the most powerful. Out of 1000 cases, 250 came of phthisical parents. Phthisis occurred twice as frequently in women as in men. The disease extends in a family in that sex in which it first appeared. Thus, if the mother be first affected, the daughters are the most obnoxious; if the father, the sons the most liable to be its victims.

2dly. In respect of occupation, tailors, bakers, and printers, were the most frequently attacked with phthisis. It was found that one-fourth of the bakers in London were suffering from phthisis. Pressmen are more healthy than compositors in the proportion of 5 to 4.

3dly. Dissipation and courses of mercury, especially in males, seemed powerful predisposing causes. Soldiers, even in the finest regiments, died of phthisis in the proportion of ·63 per cent., the average mortality among the population of England and Wales being only ·37 per cent. from the same disease. Dr. Duncan had attributed this to the listlessness of a soldier's life, and the dull monotony of drill, &c.

4thly. Mental emotion, by its tendency to affect the breathing and interfere with digestion, acts as a powerful predisposing cause. Amongst prisoners at Milbank, the mortality from phthisis is sometimes above the average.

In London the mortality amongst women is much less than among men.

In different towns the population varies.

	Men.	Women.
London	455	377
Liverpool . . .	595	571
Manchester . . .	549	548
Leeds	440	477
England and Wales	378	408
Paris	208	408

In districts where the number of illegitimate children is large, the greatest mortality from phthisis exists amongst the women. Cheerfulness is supposed powerfully to retard the march of the disease.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

Nov. 9, 1850.

T. M. Greenhow, President, in the Chair.

Mr. Greenhow presented a large tumor, about the size of a child's head, which he had removed at the Infirmary, from over the patella of a woman, æt. 43, of a flabby, sallow, unhealthy appearance. She had first noticed it about eight years ago, and did not remember that she had received a blow, or any other injury, to give rise to it. It grew slowly for the first six years, without any pain; but, for the last two, had enlarged more rapidly, and was a great source of uneasiness and some pain. It was remarked before its removal to be irregularly elastic, similar in feeling to a fungoid mass; but, owing to its position, and the other circumstances connected with its growth, it was diagnosed to be a bursal tumor. It was removed in the usual way, without difficulty, and, on being cut open, was found to have a bloody, fungoid, brain-like appearance, a large quantity of bloody serum exuding from the incised surfaces. The great central mass of the tumor was soft, more closely resembling, on superficial inspection, when first cut into, the bloody encephaloid form of fungoid disease than any other structure.

External to this the tumor was of a fibrous structure, which gradually became more dense as it approached the circumference, and was enveloped in a fibrous cyst loosely connected with the patella. The patient had progressed favourably after the removal of the tumor, and was dismissed, with the wound healed, a month after the excision. The woman had a decidedly hæmorrhagic tendency, as she was very subject to menorrhagia, and this diathesis would appear from the result of the microscopic examination to have been closely connected with the origin of the tumor.

Mr. Gibb stated the result of the microscopic examination of the tumor. The internal pseudo-fungoid portion (of which the greater mass of the tumor consisted) was evidently the remains of coagulated blood, altered and partially absorbed, consisting of amorphous granular matter, totally devoid of organization, and possessing all the characters of coagulated fibrin, with the broken up remains of the red globules. The dense fibrous portion lining the sac was organized, and presented the appearance and structure of false membrane of long standing, so that the tumor would appear to have been formed by extravasated blood within the bursa, that portion in contact with the walls of the bursa having become organized and converted into dense false membrane, while the centre was undergoing the necessary changes previous to becoming similarly organized.

Mr. Greenhow also presented a porter, æt. 27, who had fallen down a flight of stairs three months ago, and injured the spine at the sixth cervical vertebræ. When first seen he was partially insensible, and, after recovering from the effects of the concussion, was found to have slight paralysis of the arms, arising from a considerable displacement forwards of the sixth cervical vertebra. Some ineffectual attempts were made to reduce the displacement. The paralysis increased during the first week, so that he almost lost the use of his upper extremities. By cupping, blistering, and the continued action of mercury, he gradually recovered, and although considerable rigidity of the flexor muscles still exists, he can now grasp objects very firmly. The displacement remains very evident, although a great amount of lymph has been thrown out around the bones. The paralysis would not appear to have been so much produced by the pressure of the displaced bones as by the succeeding effusion of blood and the products of inflammation.

Mr. J. B. Fife presented a

Fungoid Tumor of the Orbit,

which he had removed, a few months ago, from a child æt. 4, who was first noticed to be blind a year before the removal of the disease. At this time a bright metallic spot was seen at the depth of the eye-ball. Little disturbance of the health took place for several months after this, and the eyeball remained in much the same condition until two months previous to the operation, when it began sensibly to project from the orbit and to be inflamed and painful. The eyeball from this time was rapidly pushed out of the orbit by a lobulated, soft, fungoid tumor, and in two months projected beyond the edges of the orbit with the eyeball on its anterior surface. The child suffered great pain, and as the friends were wishful to have an operation performed, it was removed in the usual way: the hæmorrhage, which was profuse, was restrained by plugging the orbit firmly. The wounds of the eyelids and of the orbit healed kindly, and the patient progressed favourably until three months after the operation, when, without any external signs of the return of the disease, the child was seized with convulsions, and died suddenly,—no doubt from an extension of the disease in the cranium. The tumor was of a soft, spongy, fungoid consistence, devoid of any appearance of fungus hematodes, and consisted almost entirely of small granular and nucleated cells, contained in the meshes of a soft, cellular, fibrous-like stroma, which, on maceration, readily allowed the cells to escape, and the tumor to collapse to a very small size. The cells were round or oval, about half the size of pus-globules, all of them preserving a pretty nearly equal size, and possessed of one or more nuclei, and numberless minute shining granules, both in the cells, and floating in the fluid containing them. The fibrous stroma consisted of fibres, many of them containing nuclei, more or less resembling caudate cells. The tumor evidently sprang from the optic nerve, and appeared to have passed along it into the optic foramen. The interior of the eyeball was filled with a thick, white, paste-like fluid, which cousisted of cells similar in all respects to those compassing the tumor, presenting, however, no trace of fibres, and occupying the position of the humours which were altogether absorbed.

Mr. J. B. Fife also exhibited a

Melanotic Tumor of the Orbit, removed from a Farmer, aged fifty-one.

Loss of vision, and a slight projection of the eyeball, were the first symptoms remarked by him twenty-five years ago, when he became a patient of Sir J. Fife, who cured him by the use of iodine. The eyeball since that time had been very prominent at two other periods, but was each time replaced by the same remedies. Two years ago it again began to project from the orbit, and notwithstanding all efforts to reduce the tumor that was evidently forcing it forwards, the eye continued to advance, and at the time of the operation was projected beyond the eyelids by an elastic fungoid-like tumor (covered by the thickened and congested conjunctiva), which encircled the eyeball in such a manner that the cornea was alone visible. Until within a few months preceding the operation no pain accompanied the progress of the disease.

The whole of the contents of the orbit were removed without difficulty. The hæmorrhage was very profuse, but quickly ceased on the plugging of the cavity. The tumor entirely filled the orbit, and on being cut open was found as black as coal; it was invested with a covering of cellular tissue, which also ran into the interior of it, separating the whole into lobules: in structure it was soft, and consisted of a cellular tissue, infiltrated with the pigment matter, which was readily washed out of the tissue when incised. The pigment matter under the microscope exhibited innumerable dark-brown organic granules, existing singly, or aggregated together in compound granular cells of great variety of size and form, together with numerous oil globules, and round and oval colourless cells, about the size of pus globules, with faint outlines, containing in their interior small shining granules, and occasionally other smaller cells of similar appearance to themselves; also cells of varying size, with thick, dark-brown walls, only very slightly transparent, and containing in the cell-walls numerous dark granules, and occasionally nuclei. These latter cells appeared as if they were the colourless cells transformed by growth and the acquisition of pigment into the peculiar cell of melanosis. The operation was performed three months ago, and the patient reports himself as being quite well, the wounds having healed.

Mr. Watson, of Burnopfield, related the history of

Two Cases of Ovarian Disease.

The first case occurred in an unmarried female, aged 53, who was seen but a short time before death, and in whom the disease had first presented itself nineteen years previously. When visited, she was greatly attenuated, with abdomen immensly distended; the treatment was merely palliative.

On examining the body after death, a trochar was first used, and twelve pints of clear pale fluid withdrawn. On then pushing the instrument through another membranous sac, between sixty and seventy pints of dark brown liquid escaped, the enlargement being still very considerable. The abdomen being then laid open, a large tumor, or rather series of tumors, became visible: the cysts varied in size from a melon to a millet-seed; and the mass, which was unattached anteriorly, seemed to occupy the whole cavity, commencing in the right iliac fossa, thence passing into the adjacent lumbar and hypochondriac regions, and crossing into the corresponding regions on the opposite side. Posteriorly it was attached to the various organs which it covered.

On removing it, the stomach and intestines were found pale, contracted, and compressed into a small bulk, the large intestines not being of greater calibre than the small naturally present; the liver was small and light coloured; the kidneys small and pale; the bladder was thickened and contracted: after removing the tumor neither the uterus nor ovaries could be discovered.

The second case, which was at one time mistaken by the surrounding people for pregnancy, occurred in a female, also unmarried, aged 45. She was seen about four months after the commencement of the disease, and then complained of dyspeptic symptoms, enlargement of abdomen, irregular menstruation, and pain in the back. On examination, a large firm tumor was found in the right side, extending from the iliac fossa upwards and across the abdomen. Beneath the umbilicus it seemed to cease by a well-defined border. Examined per vaginam, there was no development of the os uteri, but a tumor was felt behind that organ, the uterus being somewhat tilted forwards: there was no ballottement, and the mammæ were wasted and presented no areolæ.

The disease was declared to be ovarian. Diuretics, aperients, and stomachics, were given without benefit; tapping was had recourse to, and followed by the use of Ung. Iodid. Hydrarg.; but the disease steadily progressed, dyspnœa supervened, and she died rather suddenly. In neither of these cases was there œdema of the feet.

After death, a trochar was used, but no fluid escaped from the tumid abdomen, and on cutting through the parietes the tumor was found firmly adherent to the latter, which required to be dissected back.

An extensive mass of disease was then brought to view, occupying nearly the whole of the abdominal walls. In this case also the stomach and intestines were compressed into a small space, and were pale and contracted. The liver was forced high up into the thorax, thus accounting for the dyspnœa; it was small, and easily broken down.

The right kidney had disappeared, nothing remaining of it but a firm fibrous membrane; the left one was congested and much enlarged, with a small collection of pus at the apex. The pancreas seemed to have disappeared in the tumor. The spleen was large and soft: the uterus, very small and pale, was attached to the lower border of the tumor. The left ovary was only discovered by its supposed identity with a white pultaceous body attached to the tumor, and by the remains of the round ligament extending towards the inguinal canal.

The tumors after their removal appeared in both instances to consist of a series of small cysts or sacs, enclosed in a firm membranous covering. In that of long duration, (Case I.) the cysts contained merely a dark-coloured fluid, without any puriform or sebaceous matter. The lining membrane was smooth and shining, resembling that of a serous cavity. There was no communication between the cysts; but each cyst sprung from one layer, its walls appearing thicker and more membranous according to its size. In that which had run a shorter course, (Case II.) the outer or arresting membrane seemed much thicker and firmer, but the tumor was in this one also composed of cysts, growing similarly within and upon each other. The fluid contents of the different cysts varied much, in some being thick and gelatinous, in others puriform; the whole tumor seemed in a state of chronic inflammation, being red and congested.

ROYAL INSTITUTION.

Feb. 14, 1851.

Professor E. Forbes *on the Results of Recent Researches into the Marine Zoology of the British Seas.*

The lecturer commenced by referring to the great amount of labour and research which have been bestowed upon the zoology of the British islands during the last fifteen years. He next stated the method of procuring zoological specimens from the sea, by means of the dredge, with the manner, also, of tabulating the specimens, living and dead, according to the depth and distance from shore at which they have been obtained.

The results stated by Professor Forbes on this occasion presented the broad features only of the principal phenomena; the details on which the conclusions were founded being in course of publication by the British Association for the Promotion of Science.

It has been ascertained that certain animal and vegetable forms prevail in the ocean, within certain ranges of depth or barometrical zones, which are various between the coast-lines and below one hundred fathoms. The zones described by the Professor were four, each having its prevalent forms of animal and vegetable life, —the *littoral*, between high and low water-marks; the *laminarian*, from low water-mark to fifteen fathoms of depth; the *coralline*, from fifteen to fifty fathoms of depth; and the *deep-sea zone*, from fifty fathoms downwards. Each of these zones is found, moreover, to possess several belts or sub-zones in which particular organizations are found. At great depths of the British seas corals as beautiful as those of the tropical oceans are found. It is also observed that the organisms found in the lowest depths are generally devoid of colour; this rule, however, having many exceptions.

Besides the barometrical zones, marine zoology exhibits horizontal distribution, according to which extensive regions of the ocean may be arranged. The lecturer exhibited a diagram in illustration of this point, which showed the predominance of particular forms of organized beings over regions which he denominated the Arctic, Boreal, Oceanic, Atlantic, British, Celtic, European, South British, and Lusitanian.

The Professor referred to various causes: such as temperature, currents, &c., which exert modifying influences upon, and cause varieties in, these principal divisions of the distribution of the marine fauna.

ACADEMY OF MEDICINE, PARIS.

Feb. 4, 1851.

On the Causes of Goitre and Cretinism.

Dr. Niepce, physician at the sulphur baths of Allevard, transmitted a note, in which he stated that he had been engaged in researches on the origin of these two maladies in the Valleys of the French Alps, and in the plains of the Po, during a period three years. With reference to the theory of Mr. Grange, that these diseases are owing to the presence of magnesia in the waters, he had, during this time, analysed the waters of many of these valleys, and found this ingredient wanting.

Physiological and Therapeutic Action of Digitaline.

M. Bouillaud read a report on an essay by MM. Homolle and Quévenne, containing researches of which the following propositions are a summary:—

1. Digitaline possesses all the therapeutic properties of digitalis. 2. When the dose of digitaline exceeds from four to five milligrams (0·06177 to 0·07721 Eng. grs.) in the twenty-four hours, an emetico-cathartic effect is produced; sometimes suddenly, sometimes slowly. 3. Digitaline should be preferred to digitalis, as being more readily dejected, more certain in its action, and more regular in its tolerance. 4. It produces two orders of phenomena—diuresis and nervous excitement. 5. Digitaline has

a special action on the eyes, producing an obscuration of vision.

Premature Labour in Pregnancy complicated with Deformity of the Pelvis.

M. **Villeneuve** read a report on a memoir by Chailly-Honoré, in which the reporter concurred with the author in the opinion that the artificial induction of premature labour is capable of rendering great service in the cause of humanity, and of superseding mutilation of the fœtus, and sanguinary operations on the mother.

Arrest of Development of a Testicle.

M. **Gosselin** submitted for inspection the spermatic cords of a man recently condemned to death and executed for rape and assassination. This individual had but the rudiment of a testicle on the right side, while on the left side the organ was unusually large. The right epidydimis only remained. The seminal vesicle of the same side contained only a yellowish fluid, without spermatozoa.

SURGICAL SOCIETY OF PARIS.

February 5, 1851.

Inoculation from Secondary Syphilis.

M. **Vidal** read an essay in which he stated that the fact of the possibility of the transmission of secondary syphilis by inoculation was completely established. M. Vidal had inoculated a patient having secondary eruption, and had produced the disease. Besides this, M. Bouteville, a student, had after deliberate consideration submitted to be the subject of the experiment. He had been inoculated from a secondary eruption, and the disease had been fully produced in him.

M. **Cullerier** observed, that the source of the matter from which inoculation had been performed was doubtless a primary sore.

A long discussion took place on the question of a commission to investigate this subject, but the proposal was relinquished, M. Vidal promising to submit further investigations to the notice of the Society.

ACADEMY OF SCIENCES, PARIS.

Feb. 3, 1851.

Hydrophobia unsuccessfully treated by Choa or Devratabor.

M. **Ed. Sanderet**, Professor of Hygiene and Forensic Medicine in the Medical School of Besançon, related a case of hydrophobia in which this remedy had been tried without producing beneficial results. The choa was brought by M. D'Hericourt from Abyssinia, where it is considered to be a specific for hydrophobia.

Statistics of the Cholera in Paris in the year 1849.

Dr. **Duchenne** forwarded an essay, in which he stated the following conclusions:—That the mortality was highest in the lower quarters of the city, near the river; that it was less in the streets which ran perpendicularly, than in those which were parallel to the river; that its severity seemed to have been greatest during the prevalence of south-west winds; that the mortality was highest in adult age, from thirty to forty-five years, and lowest in childhood, or from five to fifteen years of age.

The Cause of Sea-sickness.

M. **Pellarin** transmitted a memoir, in which he stated that he had traced sea-sickness to a diminished afflux of blood to the nervous centres, consequent on the movement of the vessel.

Hospital and Infirmary Reports.

ST. GEORGE'S HOSPITAL.

Fracture of the Base of the Cranium.

Among the important and interesting class of injuries affecting the head, there are none, it is generally considered, so commonly fatal, as fractures of the base of the cranium; "not because fracture of the base is in itself more dangerous than a fracture elsewhere, but because it is almost invariably complicated with extensive injury of other and more important parts." However, from time to time, cases occur which point out that such a fracture may happen, and yet be attended by little besides irritation of the brain, and admit of the complete recovery of the patient. The three following cases, selected from several others occurring in St. George's Hospital during the last few months, well illustrate this point. In all three, some of the symptoms indicative of fracture of the base of the skull were so strongly marked, that there can be little or no doubt of the actual occurrence of this injury. In the first case, effusion of blood under the conjunctivæ of both eyes, and extensive hæmorrhage from the nose, following a heavy blow on the forehead, tended strongly to indicate that the line of fracture in the base of the skull ran across the orbital plates of the frontal and the cribriform plates of the æthmoid bone; possibly the body of the sphenoid was also broken.

In the second and third cases, extensive hæmorrhage from the nose, as well as hæmorrhage from the ear, followed by serous discharge, complicated in one case by deafness, with palsy of the abducens and facial nerves, prove, almost beyond a doubt, that in both these instances the line of fracture passed across the middle fossa of the skull, implicating the sphenoid and the petrous portions of the temporal bone. In the two first cases, the injury of the bone was not accompanied by any urgent cerebral symptoms; but, in the third, the symptoms at one time were of the most formidable character, and yet the patient, it will be seen, recovered completely, and that too within a month after the accident.

Case I.—Peter Dooling, a stout healthy labourer, aged 50, was admitted on Nov. 14th, under Mr. Hawkins, in a state of concussion, having about an hour previously fallen down a flight of stairs whilst carrying a heavy load on his shoulder. There was a slight bruise over the left frontal protuberance, with copious hæmorrhage from both nostrils, and effusion of blood under the conjunctiva of the left eye and eyelids; the pulse was 72, quiet and weak; there was no palsy of any part; calomel, followed by senna draught, was given, and the bowels were freely opened. The symptoms of concussion soon disappeared, and there was no further hæmorrhage; but, on the 16th, effused blood was observed in the right eyelid, and the effusion under the left conjunctiva had increased: the iris of this eye, although slightly irregular in shape, responded to the stimulus of light, and vision was unimpaired. He was in the hospital for about a month, and for some time kept strictly on low diet: this was changed, however, as he improved, and he was discharged on Dec. 11th perfectly recovered, the effused blood having been some days previously completely absorbed.

Case II.—Robert Wall, a sickly-looking boy, eight years of age, was admitted under Mr. Hawkins on December 12th, perfectly insensible, and incapable of being roused, but without sterterous breathing; having fallen from a cab about half an hour before his admission, and pitched on his head. There was a bruise over the right side of the frontal bone at the back part, and there was much bleeding from the left ear and from both nostrils: no palsy of the face was observed: the pulse was rapid and variable. In three hours he was capable of being roused, and on the following day oozing of a serous-like fluid was observed from the left ear: he was also perfectly deaf on the same side, but previous to the accident he had heard equally well with both ears: there was partial palsy of the left portio dura, the face being a little drawn to the right side, with inability to close the left eyelid: there was also slight squinting, but he could see perfectly. Calomel and senna draught were given, and cold lotion was applied to the head.

On the 17th he was more drowsy; the palsy of the left sixth and seventh cerebral nerves was more marked: the calomel and senna were repeated, and on the following day a blister was applied to the nape of the neck, with decided benefit.

On the 19th he was allowed half a pint of beef-tea: the hearing improved rapidly, but the facial palsy was evident for some time, disappearing only very gradually: the serous discharge from the left ear continued for nine or ten days after the accident, rarely sufficient, however, to be seen in a fluid state, but forming a shining coating on the ear and left cheek.

On the 23rd he was put upon milk [illegible]. Three days afterwards, there was slight increase of the palsy and deafness, but speedy relief was obtained by a dose of calomel and a senna draught.

On Jan. 8, about a month after the accident, he left the hospital, with the mouth still slightly drawn to the right side, and with inability to close the left eyelid: there was also slight squinting without double vision, but there was very little if any deafness.

Case III.—Arthur Langford, a healthy man, by trade a painter, aged 22, was admitted on Dec. 17th, under Mr. Hawkins, in a state of insensibility, with the following history. At 7 this morning, he was, it appears, found by his friends, in the area of the house in which he lodged, perfectly insensible: upon inquiry, it was found that he had returned home about 2 A. M. very drunk, and it is supposed that in attempting to enter the house, without disturbing the inmates, he fell over the area railings. His friends observed a good deal of bleeding from the right ear and from the nose, but believing him to be drunk, a frequent occurrence, neglected to send him to the Hospital until 10 P.M. When he was admitted, there was still hæmorrhage from the right ear, as also from both nostrils; he was utterly incapable of being roused; the pupils were dilated, and acted sluggishly; the pulse was quiet, but weak. Five grains of calomel were placed upon the tongue. A few hours after his admission he became more sensible, and a senna draught was given.

On the 18th, he was easily roused, and answered questions always rationally, though slowly; he had no pain in the head; the pupils still acted but slightly; the tongue was slowly but completely protruded; the urine had not been passed since his admission, and the medicine had not acted on the bowels; the face was pale; the pulse 54, compressible, and rather variable; the breathing occasionally snoring. At 1 P.M. a serous discharge was observed from the right ear; the senna draught was repeated, and the urine was drawn off. At 2 P.M. the bowels acted freely, the motions being passed in the bed, though the nurse said he was perfectly conscious of the act.

On the 19th, there was more bleeding from the ear; he was more drowsy, lying perfectly still, and then answering slowly, and sometimes irrationally, and soon lapsing into a semi-unconscious state; the pupils were very inactive; the pulse was 60, weak, and compressible; the face was observed to be drawn slightly to the left side. At 1 P.M. an enema, with three drachms of oil of turpentine, was given; about an hour afterwards he was in a much more conscious state; the bowels had acted three times freely; the first motion was passed in the bed, but on the other two occasions he rose, though he did not succeed in getting to the closet; the urine was passed voluntarily; the pupils contracted more readily.

On the 20th, the face had resumed its natural appearance; he was much more sensible, noticing what was passing in the ward; he had no pain in the head, and there had been no further hæmorrhage from the ear.

On the 21st, he was allowed half a pint of beef-tea, increased on the following day to a pint; the bowels were again acted upon with calomel and senna draught.

On the 24th, he was more drowsy, but answered rationally: when roused, the pulse was 54, weak, and rose in frequency on the least exertion; the bowels were open; a blister was applied to the nape of the neck, and the turpentine enema was repeated.

On the 26th, he was much more himself again, and was allowed a mutton chop, and a pint of porter. In a day or two more he was permitted to get up: his strength improved rapidly, and he felt perfectly free from annoyance about the head.

On Jan. 13th, less than a month after the accident, he was discharged cured.

OBITUARY.

At Panama, on the 9th of December last, at the Western Hotel, Thomas James Hammond, Esq., surgeon, son of the late Thomas Hammond, Esq., of Harwich.

Medical Trials and Inquests.

COURT OF COMMON PLEAS.

Westminster, Feb. 12.

ACTION FOR THE RECOVERY OF CHARGES FOR MEDICINE AND ATTENDANCE.

Burrows v. *Arthy.*

In this case Mr. Serjeant Byles and Mr. Lovesy appeared for the plaintiff; and Mr. E. James, Q.C., and Mr. Rodwell, for the defendant.

This was an action of debt brought to recover £146 for attendance and medicine supplied to the defendant's wife, to which the defendant pleaded, except as to £60, never indebted; and as to the £60, he suffered judgment by default.

It appeared that the plaintiff is a surgeon and apothecary practising at Islington, and the defendant is clerk to Mr. James Parker, solicitor at Chelmsford, and that the plaintiff and defendant had married two sisters. In September 1848, the defendant went to the plaintiff and requested him to go down with him to Chelmsford and see his wife, who was very ill. From the opening of the learned counsel, it appeared that the defendant's wife was pregnant at that time, but that was not the disorder for which the plaintiff was called in to attend her; and that although there were several other medical men in Chelmsford, yet the defendant preferred coming to London for the plaintiff to attend his wife, who, in about six weeks, recovered from the disorder under which she was then labouring. For these attendances the plaintiff had charged the defendant five guineas each, and one guinea for expenses, which he should prove was a reasonable charge. Evidence was then called to prove that the plaintiff had been in practice for a great length of time, and *before the Apothecaries' Act was passed;* and entries of the various visits he had paid the defendant's wife at Chelmsford, under the head "Iter," with particulars, "to visit and a mixture," the mixture usually being morphine, creosote, and poppies, with a dash of mint water, were proved; the nurse, Mrs. Poppy, proving that these visits and mixtures continued about six weeks. Several medical men were also called, who stated that if, under the circumstances, they made a charge at all, five guineas was a proper and reasonable charge. On cross-examination of some of these witnesses, it appeared that the defendant had been security for the plaintiff to several loan societies, and had given his promissory note for £30, and also for £75, as such security; that to save the defendant from ruin, as he was called on to pay these sums, Mr. Parker had paid the money for him, and had then been obliged to sue the plaintiff to recover what had been paid on his account; and it was not until after the first action had been brought, in December last, and the plaintiff had been taken in execution, that he had delivered his account to the defendant. It also appeared that the defendant's wife was attended by three Chelmsford surgeons.

Mr. JAMES, for the defendant, contended that this was a most disgraceful action. However reasonable the charges might be to a stranger wishing a London surgeon to attend his wife, the circumstances of the case implied no contract on the part of the defendant to pay any such sum. The plaintiff and defendant had married sisters, the plaintiff's family were continually visiting at the defendant's, and the two families were on the best terms, the defendant becoming the plaintiff's security for lent money; and it was not until the plaintiff had been called on to pay the amount of those securities which the defendant had had to pay for him, that he had ever dreamt of delivering any bill, and then he delivered his bill in the shape of a writ of summons. The plaintiff's counsel had cast dark insinuations as to the nature of the disorder with which the defendant's wife was afflicted, which would have been triumphantly answered had they been specifically made. Under a threat of exposure, the plaintiff had attempted to extort an exorbitant demand, which the defendant resisted; assenting, however, to pay what was a reasonable sum to avoid the annoyance of an action, and suffering judgment by default for £60. This, he submitted, was amply enough to pay the defendant.

The CHIEF JUSTICE, in summing up, left it to the jury to say whether the plaintiff had attended the defendant's wife as a brother-in-law or professionally; and if the latter, whether in their opinion the £60 for which judgment was suffered by default was sufficient remuneration; if not, they would say how much they thought the plaintiff entitled to.

The jury thought the £60 sufficient.

The CHIEF JUSTICE.—Then that will be a verdict for the plaintiff — damages 1s., for the detention of the debt, and for the defendant as to the rest of the count.

⁂ On reference to the Medical Directory we find the following entry—"William Burrows, 1, Park Street, Islington, M.R.C.S., Eng. 1819." As plaintiff is not a Licentiate of the Apothecaries' Society, he could only recover for "medicine and attendance" by proving that he was in practice before the first of August, 1815.

Correspondence.

CASE OF PRESENTATION OF THE BACK AT THE FULL PERIOD OF GESTATION.

SIR,—I can add my testimony to that of Mr. Kesteven, as published in the GAZETTE of September 6th, and in doing so I may observe, that in 1829, when I had a case of "back presentation," it could scarcely be credited by parties to whom it was related. On visiting my patient, who had borne several children, and was a well-formed stout person, I was immediately told by her that she was apprehensive of some difficulty in her case, from her feelings being different to what she had experienced in previous confinements. An examination revealed a full dilatation of the os uteri, but I could make nothing of (not even reach the presenting part of the fœtus. The pains being strong for some time, and the patient calling loudly for assistance I introduced my hand, and found a "back presentation:" nothing remarkable occurred further than this, as I delivered by hooking my index finger into the groin, and had a breech delivery, which a powerful uterus soon accomplished after the transverse position of the fœtus was altered. The legs of the fœtus were upwards upon the chest. The contractions of the uterus were too strong to enable me to reach them until the breech was brought down.—I am, sir,

Yours respectfully,
ROBERT WOOD.

Warrington Street, Ashton-under-Lyne,
February 3, 1851.

ON THE CÆSAREAN OPERATION IN CASES OF PELVIC DEFORMITY.

SIR,—The report of the case of Cæsarean section in the No. of the MEDICAL GAZETTE for the 7th inst., and the remarks on the comparative merits of this operation and the induction of premature labour, by Dr. R. Lee, induce me to trouble you with the following case, as showing, what I think ought to be put prominently forward, that, in contracted pelvis from malversation the powers of the uterus are able to restore the parts sufficiently to allow of the child passing, and consequently removing any excuse for the performance of the Cæsarean section under such circumstances.

Mrs. M——, æt. 42, consulted me in the seventh month of her eighth pregnancy. Her first five labours had been easy and favourable, the sixth was lingering and painful, and the seventh still more so, and the child still-born.

She was at this time feeble and lame, suffering severely from what she considered to be rheumatic pains in the pelvis and limbs. Her stature had diminished from 5 feet 4 inches to somewhat less than 5 feet. On examination, the pelvis was found to be very greatly deformed, the bodies of the pelvis parallel, and almost touching, and the space between the tuberosities of the ischia not more than an inch and a quarter.

At 2 A.M. on March 31st, 1843, labour came on; the uterine contractions of tolerable strength and frequency. She was directed to maintain the recumbent posture, and her strength was supported with beef-tea and wine-and-water. In twenty-four hours the membranes ruptured spontaneously, and the space was so much enlarged that three fingers' breadth could be interposed between the tuberosities of the ischia. The presentation was found to be a breach, and in forty-seven hours from the commencement of labour a full-grown still-born female infant was passed solely by the natural powers. The patient recovered without a single unpleasant symptom, and died, about four years afterwards, of phthisis; her stature having then diminished from 5 feet 4 inches to less than 4 feet.

Under such circumstances, whatever value, as regards the child, may be due to Dr. Lee's suggestion of inducing premature labour, I feel sure that no British practitioner will ever again recommend the Cæsarean section in cases of deformed pelvis from mollities ossium. My desire to put the junior members of the profession in possession of these facts, through the medium of your journal, must be my excuse for troubling you with the case.

I remain, sir,
Your most obedient servant,
GEO. CANNEY.

Bishop Auckland,
Feb. 15, 1851.

THE USE OF THE SPECULUM—LETTER FROM MR. GREENHALGH.

SIR,—It would appear from the report of Dr. Henry Bennett's speech upon my paper on the use of the speculum, in your journal of February 14th, that I had "submitted to a serious instrumental examination eight hundred females who had nothing the matter with them." What I stated was, "that out of one thousand speculum examinations extending over a period of five years, I discovered a red and apparently granulating surface in about every fifth patient examined." I deny ever having stated that the remaining "eight hundred females had nothing the matter with them."

My paper had reference solely to the frequency, the symptoms, and treatment, of the "red and apparently granulating surface," upon the cervix uteri, miscalled ulceration.

I studiously avoided allusions to the other morbid conditions met with, as not bearing in any way upon the question under consideration.

I shall feel greatly obliged if you would give this note insertion in the next number of your valuable journal.

Your obedient servant,
R. GREENHALGH.

Charles Street, Fitzroy Square,
Feb. 16, 1851.

Medical Intelligence.

RESTRICTION ON THE SALE OF ARSENIC.

IN answer to a question put to him in the House of Commons on Monday last, Sir George Grey has announced his intention of introducing, during the present session, a Bill for restricting the sale of arsenic.

HONORARY DISTINCTION.

THE Emperor of Russia has conferred the decoration of a Commander of the Order of Stanislaus upon Dr. Lallemont, a physician of Rio de Janeiro, in consideration of his medical services to Russian subjects during the prevalence of the recent yellow fever epidemic in that city.

THE MEDICAL STAFF OF ST. MARY'S HOSPITAL.

THE Committee appointed to recommend candidates have selected the following gentlemen as well qualified to constitute the staff of the new hospital:—*Physicians*—Dr. Alderson, Dr. T. K. Chambers, Dr. Sibson. *Surgeons*—Mr. Coulson, Mr. Lane, Mr. A. Ure. *Ophthalmic Surgeon*—Mr. White Cooper. *Aural Surgeon*—Mr. Toynbee. *Physician Accoucheur*—Dr. Tyler Smith. *Surgeon Accoucheur*—Mr. J. B. Brown.

WARWICK COUNTY LUNATIC ASYLUM—MEDICAL APPOINTMENT.

DR. W. H. PARSEY, Assistant Medical Officer of the Devon County Lunatic Asylum, has just been appointed Medical Superintendent of the Warwick County Asylum.

ON THE CONTAGION OF CHOLERA.

BY DR. GRAVES.

THE manner in which the cholera increased immediately after the Queen's visit to Dublin, observes Dr. Graves, was very remarkable, and, in my mind strongly corroborative of my opinion respecting its contagious nature. Indeed, upon observing the immense crowds that poured into the city from all parts of Ireland, for the purpose of witnessing Her Majesty's entry into the Irish metropolis, I mentioned to many of my friends the fears I entertained that the disease would be more widely spread, and considerably aggravated, during each day of Her Majesty's sojourn. These fears were much heightened, when I beheld the crowds of persons, of all classes, who sallied forth—too many of them from abodes of misery—to view the magnificent and brilliant appearance of the city on the evening of its illumination, and who thronged every place or thoroughfare, both in the city, Kingstown, and elsewhere, in which Her Majesty was expected to appear. Relatives of persons sick of cholera, those convalescent from premonitory diarrhœa, cholera porters, nursetenders, and others connected with the hospitals, unable to restrain their curiosity, were everywhere mixed up, and brought into the closest contact with those who had been previously healthy. At Kingstown, the attraction of the royal squadron brought visitors from all quarters: and as cholera had previously existed both in Kingstown and the adjacent villages, the same causes as in the city were likely to give rise to a more extensive dissemination of the disease. The fears expressed were but too soon realised, for the disease spread far and wide, in Dublin, Kingstown, and in many districts of the country before unaffected, in the week following Her Majesty's embarkation. As a proof of the danger of bringing crowds together during the existence of a contagious disease, I need only refer to the report of the plague of Milan in 1630, translated and abridged by Michael Donovan, Esq., from the Italian of Manzoni, and published in this Journal in August, 1849.—*Dublin Quarterly Journal.*

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

(The List will be given in our next No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	30·13
„ „ „ Thermometer[a]	39·6
Self-registering do.[b] .... Max. 56°	Min. 19°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·06.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1°.6 *above* the mean of the month.

BIRTHS & DEATHS IN THE METROPO

During the Week ending Saturday, Feb.

BIRTHS.		DEATHS.	
Males....	821	Males....	515
Females..	755	Females..	521
	1576		1036

CAUSES OF DEATH.

ALL CAUSES	[illegible]
SPECIFIED CAUSES	[illegible]
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	[illegible]
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	[illegible]
2. Brain, Spinal Marrow, Nerves, and Senses	[illegible]
4. Heart and Bloodvessels..........	[illegible]
5. Lungs and organs of Respiration	[illegible]
6. Stomach, Liver, &c.	[illegible]
7. Diseases of the Kidneys, &c.	19
8. Childbirth, Diseases of Uterus, &c.	[illegible]
9. Rheumatism, Diseases of Bones, Joints, &c.	5
10. Skin..........................	[illegible]
11. Premature Birth...............	[illegible]
12. Old Age	[illegible]
13. Sudden Deaths..................	9
14. Violence, Privation, Cold, &c....	[illegible]

The following is a selection of the numbers Deaths from the most important special causes

Small-pox..........	26	Convulsions.......	[illegible]
Measles............	29	Bronchitis	[illegible]
Scarlatina	20	Pneumonia	[illegible]
Hooping-cough	43	Phthisis	[illegible]
Diarrhœa..........	17	Lungs	[illegible]
Cholera...........	0	Teething	[illegible]
Typhus...........	43	Stomach	[illegible]
Dropsy	20	Liver...............	[illegible]
Hydrocephalus	24	Childbirth	[illegible]
Apoplexy	23	Uterus	[illegible]
Paralysis	15		

REMARKS.—The total number of deaths 13 *below* the average mortality of the 7th of *ten* previous years.

NOTICES TO CORRESPONDENTS.

University of London Examinations.—The list of the M.B. Examination for 1850, has lately been going the round of our temporaries as a piece of *medical news*, published in our number for December 1850. (See last volume, page 1040.)

We regret that want of space compels us to pone various communications which type, including those of Mr. Richardson, Kesteven, Dr. Thompson, Dr. Inman, Mr. C. S. Bate.

The Report of the Liverpool Pathological will be inserted next week.

The contribution on the action of Kousso appear in the following number.

Mr. Greenhalgh will perceive that his has been attended to.

The length of the Report of the Epidemiological Society renders it again necessary to it.

CORRIGENDA.—In Mr. Coote's paper on the Knee-joint, in our last number, page 273:—

The condyle, marked A, is the *external* condyle. And the horizontal line behind ought to be *shorter* than the vertical line.

The condyle, marked B, is the *internal* dyle.

Lectures.

NOTES OF
CLINICAL LECTURES
(Delivered at Guy's Hospital, Dec. 1850.)

By John Hilton, Esq. F.R.S.
Surgeon to the Hospital.

The first case which I shall this day introduce to your notice is one of great practical value, from illustrating how the proper course of treatment was determined and regulated by principles of pathology: it is headed as follows:—

Ulcer in the Groin—syphilitic?—Constitutional Treatment—Cured by Mercury—Conservative Influence of the Lymphatic Glands.

E. H., æt. 52, was admitted into the Hospital on Nov. 20, 1850. In appearance he is a strong robust-looking man; by employment a gas-pipe layer, residing in the Borough. States that, six months ago, he struck the shin of his left leg against a gas-pipe, by which the skin was contused and lacerated: this injury caused him considerable pain at the time, and gave rise to an open wound, which did not heal up for a period of two months. Shortly after the occurrence of the injury he discovered a swelling in his left groin, which gradually increased in size, until, nine weeks since, it became red and painful; the skin gave way, leaving a small fissure or crack over the most prominent part of the swelling; but there was no evidence of any escape of fluid at the time, according to his own statement, the fissure soon assumed the appearance of an ulcer, which has continued increasing in size up to the present time; and there is now a superficial elongated ulcer in the groin, about one inch and a half in length, and three quarters in breadth, discharging an ichorous fluid; its edges are hardened, irregular, red, but scarcely at all undermined: there is a hard mass at its base, feeling like an enlarged gland, and the integuments around are much thickened. The patient states he has always enjoyed good health, and denies ever having had syphilis. The chief inconvenience is a smarting sensation in the sore, but there is no evidence of any lancinating or shooting pain in it. His appetite is very good, and general health unimpaired. He was ordered to keep the limb at rest, and to take Pil. Plummeri et Extracti Hyoscyami aa gr. v. omni nocte. Liquoris Hydrargyri Bychloridi ʒj., Extracti Sarzæ ℈j., Decocti Sarzæ Comp. ʒj.—ter die. Yellow wash to be applied to the part.

Nov. 27th.—There is no apparent increase in the size of the ulcer. The patient says it is not so large as it was, and that he feels much better. To remain in bed, and keep the limb at rest. To repeat the medicines.

Dec. 9th.—Says he feels much better, and that the smarting pain is much less; but as yet there is no decided difference in the character of the ulcer; his gums are not yet affected by the mercury. Ordered Pil. Plumemeri, gr. v. noct maneque. Black wash to be applied to the ulcer.

On the 12th he complained of stiffness and pains in the jaws, whilst slight sponginess of the gums, and fœtor of the breath, were observed. He was ordered to take the pills once, instead of twice a day—et pergat.

14th.—His gums have been affected for two days. The ulcer is decidedly smaller, and has a much healthier aspect. Pergat.

20th.—His gums are very tender. The same hardness continues around the ulcer, which now discharges a more healthy thick purulent fluid. The ulcer is diminished in size, and altogether improved. To omit the pills et P.

29th.—The patient feels much better: there is less ptyalism, and the ulcer is healing rapidly, whilst the discharge is very slight. To continue the black wash application, and repeat the mixture. From this time he continued to progress most favourably; the ulcer gradually healed, and on January 11th he left the hospital cured.

This case presents several very interesting features for our consideration, both as regards the previous history and the peculiar characters of the ulcer; at the same time showing how a disease may continue for a long period uninfluenced by any local plan of treatment, it being kept up by a constitutional taint in the system, which, when recognized, yielded readily to the influence of medicine, and rapidly improved under the exhibition of constitutional remedies.

One's first inclination, on seeing an ulcer in the groin, would be to suspect, and endeavour to ascertain whether or not it might depend on any syphilitic cause; such an investigation was made in the present case, but the patient denied ever having had any form of venereal disease, and on inquiring into his previous history, to ascertain, if possible, the probable cause of the ulceration in the groin, we find it may be traced to a blow which the man received on the shin of his left leg six months previously, followed by a wound, which remained open for two months. And now mark the sequel: soon after the occurrence of the injury, the patient observed a swelling in his left groin, which gradually increased in size, until at last it became inflamed, hot, red, and painful. About two months since the skin gave way, leaving a small fissure, and from that time the ulceration has extended; so that, believing this succession of circumstances to have led to his present condition, we must regard the original wound in the leg as the exciting cause of the ulcer, by producing absorbent inflammation, which extended to the lymphatic glands in the groin, with which the absorbents of the leg directly communicate; that this was followed by enlargements of the inguinal glands, and subsequently by abscess around one of them, inducing after a short time ulceration of the integuments over the abscess, and the evacuation of its contents. These two latter conditions appear to have been unobserved by the patient, as he asserts that the swelling did not burst, and that there was no escape of matter, but states that the ulceration commenced primarily. This statement, however, is improbable, and quite at variance with what is constantly observed; the most probable explanation is, that the quantity of fluid was so slight, and the fissure by which it escaped so small, as quite to have eluded his notice at the time.

By the term absorbent inflammation, which has just been used, is meant an inflammatory condition of the lymphatic or absorbent vessels, depending upon the presence in them of an irritating morbid fluid, which extends to the nearest communicating gland by means of their continuous tubular arrangement. In such cases, as you well know, inflammation of the absorbents is indicated by the superficial red lines extending along their course on the limb, and is soon followed by glandular enlargements. Another cause of what is termed sympathetic glandular enlargement is the result of a morbid fluid having been conveyed from the original source to the nearest associated gland, and there exciting an inflammatory condition, without being preceded by any evidence of continuous absorbent inflammation from the original wound. Examples of both these conditions are occasionally met with, as the sequence of dissection wounds. After a puncture of the finger, red lines may or may not be observed extending up the hand and arm, followed by swellings of the glands on the inner side of the elbow, or in the axilla. Now these enlarged glands with which the absorbents communicate, must be regarded *as the result of a highly conservative act*, in reference to the constitution or general health, by tending to arrest the progress of the morbid fluid on its way to the blood, so as to prevent its entering into the general circulation and poisoning the whole system: the poisonous and morbid influence being exerted upon the glands themselves, gives rise to inflammation and abscess of the surrounding tissues. This wise provision must be regarded as a means of arresting the rapid extension of malignant disease through the system: thus, for instance, in malignant disease of the hand, or arm, or breast, when it has existed for some length of time, we find that the axillary glands become enlarged,—a conservative act, tending to prevent the passage of the malignant cells into the general circulation; for if these morbid cells were permitted to mingle with the blood, so as to be carried floating in it to the centre of the circulation, they would be liable in their passage through the minute circulation of the lungs to become there arrested, and either to engender, as it were, a like disease in surrounding structures, or form a nidus for a malignant growth, which, increasing in size by the development of new cells, gives rise to a disease, of a similar nature to the original morbid growth, but which now assumes a more serious aspect from occurring in an organ where its rapid growth interferes with important functions, and leads consequently much sooner to a fatal termination. Morbid fluids and products, however, are not only propagated through the medium of the lymphatics, but also by the veins, which is attended with far more danger to the patient, and is more speedily fatal. But you will perhaps ask, why should this be followed by a more dangerous result than when the poison is taken up by the lymphatics? The reason is this:—In the veins there essentially is no conservative apparatus like that we have been speaking of in the lymphatic glands; consequently there is nothing to retard the free passage of the morbid fluid from the original source into the general circulation, or to prevent its immediate mixture with the blood: the blood speedily becomes poisoned or inoculated by it, giving rise to phlebitis or inflammation of the venous tubes, leading to consecutive inflammation and suppuration in other parts of the body, and attended with that extreme constitutional depression so common in these cases. There is, however, a kind of conservative action in the veins, which is this: when, during the progress of ulceration, pus enters a vein, the blood may become immediately coagulated, and obstruct, the vessel, by forming a plug, thus preventing the passage of the pus with the blood towards the right side of the heart: but if, however, the quantity of pus is not sufficient to produce coagulation of the blood, this conservative influence is lost; the pus becomes mingled with the blood, and passes into the larger veins; is carried to the heart; and either becomes arrested in the capillary circulation of the lungs, or else in the course of the aortic circulation is lodged in the systemic capillaries; and thus gives rise to abscesses in different parts of the body.

Having explained to you how a lymphatic gland may inflame, suppurate, and ulcerate, in consequence of morbid fluids being carried to it by the direct tubular communication of the absorbent vessels between it and the seat of injury, we now come to consider the precise character of the ulcer in the case before us—to endeavour to arrive at a proper conclusion with reference to the mode of treatment to be adopted; the ulcer discharged an ichorous fluid, its edges were hardened, raised, irregular, and inflamed: there was also hardness of the integuments around. Could it be of a malignant nature? There was no evidence of this. The general aspect of the ulcer was decidedly non-malignant, neither was it attended with that lancinating or shooting pain so frequently met with in cases of this class of disease. Again: was it a common ulcer, deriving its peculiar appearance from being modified by a constitutional cause, such as a syphilitic taint? The history was strongly against any complication of this sort; for although repeatedly questioned, the patient always strenuously denied ever having had such a disease. But can this assertion be relied on? We know that cases are frequently coming under observation in which, judging from the character of the ulcer alone, no doubt can be entertained respecting its specific origin, and yet patients will protest against it to the last, even although our diagnosis may have derived additional strength and confirmation from such an ulcer yielding only to a mercurial plan of treatment.

It is important to remember that simple wounds occasionally assume a specific character when occurring in persons whose constitution has been previously poisoned by syphilis. For the purpose of placing this subject more clearly before you, and with the intention of illustrating the probable relation of cause and effect as regards the ulcer in the case detailed, I may mention to you the facts of another case which came under my care some years ago. I had operated on a patient for the removal of a small cyst from the forehead, when the linear wound took on the form, and assumed the precise characters, of a specific tertiary sore. This was too obvious to be mistaken; and on making enquiry, I found that the patient was poisoned at the time of the operation by syphilis and mercury. Under the exhibition of iodide of potassium all the specific characters disappeared, and the wound healed rapidly. Local injuries, also, such as abrasion of the skin on the elbows or legs, not unfrequently assume a specific character under similar circumstances, and compel for their successful treatment the employment of constitutional means.

With these facts before us, let me ask you to hesitate before you perform an operation in any case (except it be one of urgent necessity) where there is reason to believe that a syphilitic taint exists at the time, but to defer until you have freed the system from the morbid agent circulating in it, when the intended operation may be accomplished with safety. But how do these remarks apply to the case now under our consideration? The character of the ulcer was very suspicious; its hardened and irregular edges strongly tended to show its connection with a cause of a constitutional character. And I think it quite probable, notwithstanding his protestations of innocence, that our patient's system had been poisoned by syphilis at some previous time, which had never been properly eradicated; and it was from entertaining such a view of this case at the time that the treatment adopted was of a constitutional character. Mercury was strongly indicated, and was exhibited in the forms of Plummer's pill and the bichloride, whilst black wash was applied to the sore. The patient was ordered to remain in bed, and keep the lower extremity at rest, so as not to exert any tension upon the edges of the ulcer. This is at all times an important thing to attend to, as the movements of a part may interfere materially with the healing process. The previous unrestrained movements of the limb probably afford a partial explanation of the thickened condition of the integuments surrounding the ulcer in the present case. The effect of the mercurial plan of treatment was very decided: the patient became quickly under its influence, when the improved character of the ulcer was immediately manifest; its hardened circumference and edges speedily disappeared; the ulcer became smaller, and soon exhibited a more healthy action; so that after a few weeks the man left the hospital cured: the result tending strongly to confirm the view taken originally of the case as to the true cause of the ulceration.

Two cases have recently occurred in our syphilitic wards which may be made use of for the purpose of further illustration. One, which many of you probably saw, was in a man at the middle period of life, who had an ulcer in the groin which had existed during several months without any previous history of chancre. I attempted to heal it by keeping the limb absolutely at rest, by means of a straight splint, pursuing at the same time a tonic plan of treatment, for the purpose of testing what could be effected by keeping the parts at rest, and improving the general health. No change, however, took place; and being satisfied, from the aspect of the ulcer, that it was of a specific character, although the primary cause did not appear, I put him under the influence of mercury, which produced a speedy healing of the ulcer. The second case—a woman of the town, who had an elongated ulcer in each groin, from three to four inches in length, presenting the appearance of syphilitic ulcers (of which drawings were made by our artist), but without being preceded, as far as could be ascertained, by any primary sores. The mercurial course of treatment was adopted. Immediately the patient became mercurialized the ulcers began to heal, and in a short time were perfectly cured without the application of any other means.

I think the detailed results of these cases will tend to impress upon you that instances are occasionally met with in practice of specific or syphilitic ulcers in the groin or any other part, presenting highly characteristic features without any existing evidence of a primary sore, amenable to appropriate remedies, and curable only by specific treatment.

The next case which I have to introduce to your notice has no special interest or peculiar feature attached to it, but is one of extreme simplicity, and presents but very few circumstances requiring comment: it is headed

Chronic Abscess on the Inner Part of the Thigh, close to the Knee-joint.

Agnes E., æt. twenty-six, was admitted into Guy's Hospital on November 27th, 1850. States she is a married woman, by occupation a dressmaker, residing at Hackney. In appearance she is a woman of delicate constitution, and evidently of a scrofulous diathesis. Says that twelve years ago—being at that time fourteen years old—she was laid up with an affection of the right knee-joint, the origin of which she does not remember, but which was doubtless of an inflammatory nature, as it terminated in anchylosis about three months after. Since that time the functions of the joint have been completely lost. About eighteen months since, she first perceived a small swelling on the inner side of the anchylosed knee, which has gradually and uniformly continued to increase in size up to the present time. On examination, there is a large defined, fluctuating, spherical swelling on the inner side of the right knee and thigh, evidently superficial, extending upwards a short distance along the vastus internus muscle: posteriorly, it is limited by the semi-membranosus and semi-tendinosus; whilst anteriorly, it is situated entirely to the inner side of the patella, which bone is fixed and immoveable—the result of old disease. The remainder of the joint and adjacent parts are not in the slightest degree swollen or otherwise affected.

On making deep pressure over the swelling, which is neither inflamed nor at all painful to the touch, a well-defined hard circumference may be felt. She has never suffered any shivering or constitutional symptoms since the commencement of the swelling. During the progressive enlargement of this tumor the limb has been gradually getting weaker and more useless to her; whilst of late the temperature has been less than natural, and jactitation or startings of the limb have been common on falling off to sleep. At times, and especially during change of weather, she has suffered from a deep-seated aching pain in the part; and for three months past her appetite has been getting worse, accompanied by feelings of weakness and general debility. The tumor was punctured, when a large quantity of pus was evacuated, after which she felt more comfortable.—Ordered to keep the limb perfectly quiet.

On Dec. 2d, the abscess was discharging freely; the skin over it was very hot, and painful to the touch, whilst a slight erythematous blush was observed extending over the inner aspect of the knee. Bowels constipated; tongue furred.—Ordered Pil. Col. c. Cal., gr. xv. statim; et Olei Ricini, ℥j. post horas quatuor.

5th.—She feels better, though very weak, the knee being less inflamed and painful. Pressure was made, by means of a compress, over the walls of the abscess, in order to approximate the opposed surfaces.—She was ordered Quinæ Disulphatis, gr. ij. ter die.

9th.—She felt better: the knee was less painful; the discharge still considerable in quantity, and of a more healthy character.—Pergat.

18th.—Some redness, swelling, and tenderness, about the knee has again manifested itself, with febrile disturbance and constipated bowels. The present attack appears to present more the characters of erysipelas. Accordingly, all strappings were taken away, and she was removed to the Erysipelas ward.—Ordered Magnesiæ Mistura, ℥iss. statim.—It proved, however, to be a very slight attack of erysipelas, and speedily passed off. The abscess continued to suppurate for several weeks, at which period she left the hospital, for the purpose of improving her general health.

On investigating the previous history in this case, we find that the patient had been the subject of disease of the knee-joint at an early period of life, which terminated in anchylosis after an illness of three months' duration. There can be but little doubt, judging from the result, that the disease from which she suffered at that time, and which terminated in the destruction of the normal function of the joint, was of an inflammatory nature, occurring in a person of low constitutional power, and of a scrofulous diathesis; so that under these circumstances anchylosis must be regarded as a most favourable and advantageous termination.

The diagnosis of the present swelling near the joint was not at first sight very clear. We are told that a small swelling was first discovered on the inner side of the knee about eighteen months since, which has gradually continued to increase in size up to the present time. Now the entire absence of shivering and all febrile or other constitutional symptoms from the commencement, tended to show that it was not preceded by any marked inflammatory condition which would have been likely to terminate in suppuration; so that, judging from the history, we are naturally led to suspect the existence of some disease, slow in its progress, and which is usually unattended by constitutional symptoms of importance: the fluctuating tumor seemed in all probability to be either a superficial chronic abscess or an hydatid cyst. Of these two, the former was by far the more likely; for hydatids in the extremities are but seldom met with, being more frequently associated with some of the abdominal or thoracic viscera, whilst chronic abscess in a person of scrofulous diathesis is a disease of very common occurrence, coming on insidiously as in the present instance, without being preceded by any obvious cause, and not attended by any constitutional symptoms of importance, until it not unfrequently attains a much larger size than in the case under consideration.

All doubt, however, regarding the precise nature of the case was cleared up by puncturing the swelling, and examining its contents, which consisted of pus, presenting the ordinary character of that fluid in strumous subjects, the case being clearly one of chronic or cold abscess, as it is termed, the result of an inflammation so slight as not to give rise to the least constitutional disturbance, and the very existence of which was, as it often is, quite unsuspected until the abscess becomes of sufficient size to attract attention. This variety of abscess may be forming for a long period, like psoas and lumbar, without producing any very obvious symptoms; it also resembles them in occurring in a similar class of patients, although lumbar abscesses are generally associated with scrofulous disease of the vertebræ. The gradual and progressive enlargement of the abscess, in this case, was quite in accordance with what is commonly observed, depending upon the existing inflammation being of too low a type to throw out sufficient plastic lymph to form a barrier to arrest its progress. So that the term cold abscess must be regarded as perfectly synonymous with chronic, in contradistinction to the acute or inflamed abscess, the commencement and progress of which are attended by an amount of constitutional disturbance which is far too obvious to be mistaken. We also observed that the temperature of the diseased limb was less than that of the opposite side; and this is very frequently the case when a limb has not been used for a very long period of time. This decrease of temperature depends on a diminished activity of the circulation, in consequence of the natural mobility and normal functions of the limb being interfered with; for muscular action is a great contributor to the development of heat both generally and locally.

The patient has told us that, for several months past, the diseased limb has been getting weaker, and gradually becoming more useless; whilst, on examination, the muscles are quite wasted when compared with those of the sound limb. This atrophied condition of the muscles is owing to disuse, as muscular development is in direct proportion to its functional activity: thus it is that a reverse condition is observed in persons whose muscles are in constant exercise: for example, in men who use the sledge-hammer, or lift heavy weights with the arm, the deltoid becomes hypertrophied; for the muscle being frequently exercised, its supply of blood becomes increased, and its growth is in proportion.

The next symptom noticed which requires an explanation was a starting of the limb just as the patient drops off to sleep: this is quite an involuntary act, and is explicable on excito-motory principles. It occurs at the precise moment of falling off to sleep, and afterwards when the voluntary control over the muscles is suspended; it is a symptom very commonly observed in diseases about the joints, especially in affections of the articular cartilage, in which case the slightest contact between the opposing surfaces is attended with excessive nervous irritation. In order to prevent this, the patient naturally strives, by voluntary muscular effort, to keep the limb in a perfect state of rest and quietude; but, directly he goes to sleep, the power of volition is withdrawn, when the muscles under its control, previously contracted, become relaxed, allowing the diseased surfaces to rub against each other: an excitation is instantly conveyed, by means of the sensitive or excitor nerves, to the spinal chord which, having the ascendancy (for it is by this portion of the nervous system that muscular movements are regulated during sleep), reacts, through the motor nerves, upon the different muscles which contract, and thus gives rise to the involuntary jumping of the limb. Similar movements are observed after amputation, and also in diseases of the spinal cord. Although it would be digressing from my present subject to point out to you the correct interpretation of jumping of the limb under all the conditions in which it has been observed, nevertheless I cannot quit the subject altogether without asking you to bear in mind that it is a symptom of great value, if properly interpreted, and the character of which should be carefully marked in all spinal affections, where its existence may tend to give you some idea of the extent of mischief in which the cord is involved: thus, for instance, if only one limb jactitates, the probability is that only one side of the cord is affected; whereas if both jump in a similar manner it would tend to indicate that the centre of the cord was implicated in the disease.

As regards the treatment in this case, it will be remembered that, on the third day after the abscess was opened, an erythematous blush was observed around the puncture, attended with slight febrile disturbance, as evidenced by heat of skin, furred tongue, and constipated bowels. The general treatment was regulated by this, and consisted chiefly in the exhibition of purgatives, which would exercise a beneficial effect, not only by clearing out the contents of the bowels, but also by acting as a counter-irritant, stimulating the entire length of the intestinal canal, causing an increased secretion from the mucous membrane, as well as promoting the secretion of its tributary organs, and at the same time diminishing the quantity of circulating fluid, and removing deleterious matter from the system by the large quantity of fluid poured out. The remainder of the treatment consisted in the exhibition of tonics, to improve the general health as much as possible. For this purpose quinine was given in the form of pill three times a day. Under these remedies the erythema diminished, and the patient continued to improve: the local treatment consisted in keeping the limb at rest, so as not to interfere with the reparative process; whilst pressure was made over the walls of the abscess by means of a pad of lint and plaster, for the purpose of keeping its sides in apposition, and thus favour union by adhesion.

The primary cause of the abscess in this case probably stood in some distinct association with old disease of the knee-joint—whether of cartilage or bone it would be impossible to say.

LABOUR, WITH ALMOST COMPLETE CLOSURE OF THE VAGINA.

THE following case is reported by Dr. Putnam:—

A healthy woman, aged thirty, was married at seventeen, never having menstruated. Two years after marriage she had a swelling in the vagina, which was punctured by a surgeon, and a quantity of tarry-looking fluid discharged.

About two years ago, a large "lump" formed in the abdomen, causing an enlargement as at the sixth month of pregnancy. There were also headache, constant flush of the face, and dysuria. This enlargement had lasted six months, when the patient began to discharge from the vagina a thick, dark-coloured fluid, resembling that evacuated ten years before. Within a week, the abdomen was reduced to the natural size, the discharge continued for three weeks, and afterwards she menstruated regularly until she became pregnant.

On the access of labour there was found an obstruction in the vagina, and on the 10th I was asked to see her. She had been for some hours in active labour. On examination, the vagina, within an inch of the external organs, was closed by a strong, somewhat yielding membrane. No perforation could be detected, though sought for. We decided to do nothing, but await the progress of the labour.

In four hours violent pain came on—the septum was distended, and protruded beyond the external organs. Under this tension three small holes were visible, just sufficient to admit the head of a probe, and about one-fourth of an inch apart. A bistoury was then introduced, and the three holes laid into one. The thickness of the septum was found to be about two lines. A gush of liquor amnii succeeded, and in half an hour the head came down, and the child was born living.

Coition had from the first been painful, and for the last two years excessively so. The husband had not been aware of any impediment until within the last two years. I presume, however, that the malformation was congenital.—*The American Journal of the Medical Sciences.*

Original Communications.

ON THE
DIFFERENT WAYS IN WHICH DEATH OCCURS.

By Benjamin W. Richardson,
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The Importance of the Subject, and its Objects—The Four Modes of dying specified and considered, generally—their Symptoms contrasted—Syncope, *its Forms and Causes—Supposed influence of the Cerebro-spinal Axis on the Heart's Motion, considered*—The Recumbent Posture, *in what its value consists—Cases.*

In contributing the following papers on the Modes of Dying, two objects are intended,—first, to gather up and collate the facts that refer to the several ways in which death occurs; and secondly, to apply the information thus gained to practical uses.

That well-founded information of this kind is most valuable to the medical man, it needs but a slight acquaintance with practice to discover. It is available in a variety of ways, and on numerous occasions. It gives pleasing sensations of confidence to the mind at the period when most required,—viz., when life seems escaping, in spite of every care; it suggests what remedies have the most chance of doing good; and lastly, it affords a degree of foresight as to the kind of termination to be expected,—a point always interesting to inquiring friendship, and that cannot fail to prove creditable to the practitioner, even when his efforts have failed in saving life.

Of the facility with which the various modes of dying may be learned, their symptoms known, and their proper treatment understood, a course of very short observation will make known; while the advantages attending it will far more than repay the trouble of the learner. With the four leading forms of death, about to be dwelt upon, the mind should first become familiar; and the various combinations of these, or, as they may very properly be called, compound forms, may then be studied, inasmuch as they often constitute perfectly different forms, requiring distinct and special treatment.

The Four Modes of Dying considered generally.

There requires in no department of medicine or surgery less change than in the divisions made as to modes of dying. These are four in number, and are known by the names of *Syncope, Asthenia, Apnœa or Asphyxia,* and *Coma.*

As a general rule they do not occur singly, but constitute a compound form of death by two or more of them blending together. An exception to this rule, however, not uncommonly does occur, exhibiting them in their simple forms; and of these it is necessary first to treat. Let us begin by tracing an outline of each of them.

Syncope.—Death by pure syncope is that which takes place from a great and sudden change in the state of the circulating system, by which the life-giving blood is either altered in its constitution, or stopped, or diverted in its course.

Asthenia.—Death by asthenia occurs from a change in the circulating system also. But here the change is gradual, whether it be in the quality of the blood, or from stoppage or diversion. *Asthenia* may thus be looked upon as chronic syncope, with one superadded functional error,—viz., default of nutritive faculty.

Apnœal death is invariably, in the first instance, connected with defect in two distinct systems,—viz., the circulatory and respiratory, with which the nervous system also eventually becomes implicated.

In death by Coma the nervous system chiefly and invariably suffers; sometimes it suffers alone, at other times with the vascular system, upon which it may depend; while in other cases the vascular system becomes indirectly affected from the nervous, through the medium of the respiratory, and thus the three systems are implicated.

Symptoms.—The symptoms of the four forms of dying are so well known, that it will be enough if we contrast them in their more striking features.

In death from Syncope the body becomes more or less rapidly pallid, cold, and bedewed with moisture; insensibility soon occurs, there are slight convulvulsive movements, and the cornea becomes flaccid. In this form the circulatory system is the first that ceases to play.

In death by Asthenia the colour and heat likewise pass off, but more slowly than in syncope, and there are occasional remissions, in the form of hectic: here also emaciation is superadded, and weak convulsions and insensibility occur, as the end is approached.

In the Apnœal form of dissolution the surface of the body retains its heat, but changes in colour to a livid or purple appearance, and insensibility quickly ensues. There are strong convulsions, the pupil is sometimes contracted, and the cornea remains after death firm and prominent for a long time. In this form the respiratory system ceases to act first, and the circulating last.

In Comatose death the heat of the surface is increased, but not with moisture; insensibility is usually more gradual than in apnœa. The colour of the body is but little changed, except that it is sometimes rather florid; so that in the young the face assumes, not unfrequently, a healthy, or even beautiful appearance. The pupil varies in different cases; sometimes dilated, at other times contracted. The cornea sometimes continues glistening and prominent, but not so long as in apnœal death. The breathing is often noisy and variable, at one moment slow, the next in rapid snatches. The circulation is also irregular, and it outlives the respiration. The whole appearance of the patient is that of a person in a profound sleep, varied with convulsive fits, and short appearances of exhaustion.

Having now laid down the more striking contrasts that exist between these four principal modes of dying, I proceed to discuss separately each particular mode, and to enquire into its causes, forms, and treatment.

SYNCOPE.

Syncopal death may be fairly divided into the following three forms, depending upon the same number of causes:—

a. *Syncope* from mechanical derangement in the circulating machinery.

b. From derangements of parts of the nervous system, which seem to have some connection with the heart's motion.

c. From derangement in the circulating fluid.

From Derangement of Circulating Machinery.

The derangements in the machinery of the circulation, that induce syncopal death, are two in number, and entirely opposite in character. One may occur, either in the heart, or far from it, and either in the venous or arterial system. The other must *of necessity* take place in the heart itself, or in its immediate vicinity. The first of these derangements is caused by the occurrence of an opening in some portion of the heart or vessels, whereby the current of blood is suddenly liberated, and diverted from its normal course. The second derangement is produced by an obstruction in some portion of the central organ, or closely neighbouring parts, whereby the current of blood is rapidly arrested, and the whole circulation brought to a stand.

It is customary to connect with the symptoms known under the name of syncope, the idea, that, either the blood is being lost from the proper channels for conveying it, or that the nervous system is suffering from some depressing cause, which in its turn is acting upon the circulatory movements; but this is a wrong impression, since, as will be shown fully by and by, syncope may depend as certainly upon obstruction, as upon either of these causes. It is better to remember, that whenever the heart's action is fatally interfered with suddenly, the form of death that will ensue, be the interference what it may, *must be known as syncope.*

In syncope, from the first class of mechanical derangements, the blood, as before said, is diverted from its course, and is thrown altogether out of its proper channels, and so the heart comes to a stand from the absence of its stimulus—the blood.

And here, before proceeding further, I am anxious to dwell for a short time on a subject most important in its bearings to syncopal death, viz., the influence which that part of the nervous system, known as the cerebro-spinal axis, is supposed to have over the heart, by virtue of the stimulus which it derives itself from the blood. Let me state the matter more plainly: it is the commonly received opinion, that in cases of faintness from loss of blood, the heart not only loses its power to contract, but that the nervous system shares seriously in the depression, and so by failing in its turn to supply the heart with nervous power, the action of that organ is more quickly arrested. Still further, and from the same view of the case, it is believed to be necessary in the treatment of such cases to endeavour to entice the blood, by simple mechanical means, to those nervous centres, the brain and medulla oblongata, in order that they may derive fresh power from it with which to re-invigorate the heart.

In support of this view, there are many arguments adduced, the best of which are—

1*st*.—The experiment, that if an animal be nearly bled to death, and then after the hæmorrhage has been arrested, it be hung, with the head depending, the heart will regain its power, and the creature will recover. The renewed power is here ascribed to the gravitation of the remaining blood to the upper parts of the cerebro-spinal axis, by which, they having received fresh stimulas, have re-transmitted power to the heart, and set it again in play.

2*dly*.—The modification of this experiment in the human body, by laying it, when syncopal, in the recumbent position, and observing the good effects which result, by the reaction of the heart. Here, again, the circulation is said to have revived, from the act of recumbency causing blood to flow to the superior nervous centres, giving them a fresh supply of stimulus, from which the heart, by their means, receives its power.

3*dly*.—The fact, that when the blood is taken, the body being in the horizontal position, syncope is induced much more slowly than when in the erect position. This arises, it is imagined, from the circumstance, that the blood in the erect position is derived faster from the brain and medulla, in consequence of which the heart fails sooner.

4*thly*.—The well known occurrence, that when a person has been stooping for a long time, the heart's motion will become depressed, or sometimes actually stopped, on rising suddenly into the erect position. This effect, it is argued, takes place from the pressure or stimulus that has been suddenly removed from the brain and medulla, disqualifying them from giving off the necessary nervous power to supply the heart, and so leading to arrest of the heart's motion.

5*thly*.—The knowledge of the readiness with which some persons will suffer from syncope, from the effect of a mental emotion. This, it is asserted, *only can occur* through the action of the nervous system upon the heart; hence, the part of the nervous system in which the mind is supposed to reside,—the brain, can be so acted upon as to produce syncope; *ergo*, it is able, by receiving the stimulus of the blood, to rally the heart from syncope. Thus the heart is made to be thoroughly dependent upon the cerebro-spinal axis for its motion, while that axis itself depends upon the stimulus of the heart for the power which it possesses and transmits to the heart.

I find that these views are entertained by Dr. Pulteney Alison, of Edinburgh, and in his excellent work on Pathology and Practice they are all laid down with more or less clearness. To this work I particularly refer the reader, where he will find Dr. Alison describing the state to which I have alluded as "This secondary action or reaction on the heart, of diminished pressure on the brain, originally consequent on deficient action of the heart itself*."

Now, this kind of physiological reasoning I take the liberty of questioning; and though it does, at first sight, appear to be strongly supported by many arguments, a careful investigation of the entire subject will show them all to have but little weight, and some of them to be even directly opposed to the conclusions come to.

In bringing forward opposing opinions on this subject, I would allude in the first place to the pulsation of the heart in the fœtus. In the formation of the animal body, there is a time when the heart makes its first throb; and as at this time no blood can have reached the nervous centres, or any other part of the nervous system, it is quite evident that these can by no means have any influence over it, but that the throb must occur, either from the *vis insitu* of the organ, or from the effect of stimulus, from the fluid which it contains. Now, the first pulsation must be taken as the type of all that are to follow, and as it is produced before any nervous centre has been stimulated or brought into play, upon what reasonable grounds can we suppose that anything more will ever be required? If the heart can act at first without the assistance of the cerebro-spinal axis, can it not continue so to act? and why needs it the help of a system which it must itself be continually supplying with power?

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* Alison's Outlines of Pathology and Practice, chap. i. p. 11, and chap. iii. pp. 535 and 536.

Again, it is a well-known fact that the brain and medulla may be wanting, or may be removed, and yet the heart's action be continued.

It is found by experiments on animals, that the whole functions of the nervous system may be suspended by the action of a narcotic poison, such as woorara, and yet, by getting blood into the heart by artificial respiration, it will continue to act for a period long enough to allow the action of the poison to pass off, and the animal to recover.

Again, to what extent will disease of the cerebro-spinal axis proceed, and yet the heart's motion remain unaffected. The nervous organs may be softened, or pressed upon by tumors, bone, or coagula, and every form of paralysis may result from this pressure; almost the whole of the rest of the body may lose its functions,—limbs, bowels, thoracic machinery, and yet so long as the heart is supplied with blood it will remain true to its duty, and by still distributing its contents, persist to the last in endeavouring to support the dying body; and on the other hand, do we not see the whole of the muscular system violently convulsed, as in tetanus, hysteria, &c., and the heart yet continue to act with the utmost regularity.

Now, I presume that each of these facts assures us that the cerebro-spinal axis can have no influence over the motion of the heart, and that the doctrine as stated by Dr. Alison, and so commonly received, must be incorrect. But let us return to some of the arguments themselves, used in support of the doctrine—and especially to the effect of the recumbent posture during loss of blood.

Of the great value of the recumbent position during syncope no one can doubt, and the important question, therefore, to be considered, is—how does it do good? As before stated, it is the common opinion, that it acts beneficially, by allowing the blood to gravitate to the brain and medulla, and that these centres gaining energy by this process, re-act on the heart, and so increase its power. I cannot, however, myself admit the correctness of this reasoning, and hence I refer the matter to another cause, now to be explained.

If blood be taken largely from the system, say from the arm, while the body is erect, the person soon becomes faint. This arises from the heart being robbed of a sufficiency of blood on which to act, and if the blood be allowed to flow on, the organ will be emptied, and cease to act altogether. For this to occur, however, be it remarked, it is not necessary for anything like half the real quantity of blood in the body to be withdrawn, and therefore it cannot be said that the heart fails from there being no blood in the body, but from its failing to receive what there remains. And at this point, a glance at the course of the circulating currents will greatly assist us. Let the reader only recall to mind these simple facts, that the arterial blood on leaving the heart, whether destined for the upper or lower extremities, *first ascends*—that the venous currents from the upper extremity, *descend*—while those from the lower extremities, by far the largest, *ascend*—and he may then readily comprehend the whole subject.

The body thus constituted is placed in the erect position, and blood is withdrawn: the heart soon failing, from abstraction of its stimulus, loses its power of throwing the current of blood along the ascending aorta, and the whole arterial system consequently loses its play: the result is, that, by and by, as the *vis a tergo* lessens, the blood in the body below the heart fails to return in opposition to gravity; it then comes to pass that the right heart is only supplied with stimulus from the descending veins above it, which are being robbed by the hæmorrhage; but as the blood they may still pour into the heart is forced at each pulsation after its arterialization up the aorta with less and less power, eventually all of it that rises fails to ascend along the carotids, innominata, and subclavian, and so either glides over the arch into the lower part of the body, or falls back upon the tricuspid valve: the heart is thus finally left empty, and the vessels above it empty also, but the veins of the lower extremity are full, perhaps, almost up to the mouth of the inferior cava, and want but force from behind to make them empty themselves into the auricle.

The person is now in a state of syncope, and as the brain is without a supply of blood, consciousness and power are necessarily gone; but at this moment the body falls or is laid down with its head and upper part low—and what results? Simply this, that the position of the veins of the lower parts of the body being now entirely changed, the blood with which they are charged flows into the right auricle by the force of gravitation, and upon this, the auricle, if it has sufficient vital energy left, contracts; a fresh current of blood is sent to the lungs to be purified, returned to the left heart, and once more sent through the arterial system, so re-establishing the whole circulation; and then, in the course of this re-establishment, the brain, receiving a fresh supply of stimulus in the blood, consciousness returns, and the heart also receiving a fresh supply of stimulus, heat and power return to it, and so to every part of the body does its proper function slowly return, the cause of the hæmorrhage being arrested. But, to not one of these parts is due the *least* credit for having helped the heart,—to the brain or spinal cord, no more than to the hand, to the hand than to the foot. The whole is the effect of horizontal posture, which is purely mechanical, the cerebro-spinal axis having no participation in the recovery. Indeed, it is impossible to see how these nervous centres could be of service, even if they possessed the power ascribed to them, seeing that any exercise of the power in question must prove nugatory, unless the heart were at the same time supplied with a sufficiency of blood on which to expend its action.

I doubt not but that it is the very rapid return of consciousness soon after the assumption of the recumbent position, that has led observers to believe that the re-action of the heart depends upon the return of consciousness, and not the return of consciousness upon the re-action of the heart after being again excited by the blood. But if a close view of the symptoms attending a fit of syncope be taken, it will at once be seen that the heart begins to re-act some time before there is the slightest reappearance of sensibility.

But let us take another instance: cases of hæmorrhage not uncommonly happen, in which the heart and whole vascular system are left so emptied as to leave it visibly evident that nothing but transfusion of blood can avail anything. This most excellent remedial measure is therefore resorted to, and (supposing it rightly done and the case not too far gone) the heart as it receives the new stimulus starts again into action, and re-establishes the circulation.

Now what has been performed here but a restoration of the condition upon which I conceive the heart's action to depend, viz., the presence of a certain sufficient quantity of blood in its cavities. And here, again, no part of the cerebro-spinal axis has been called into requisition any more than in the former instance.

Moreover, this view of the subject affords a key to many phenomena well known in practice, but not, in so far as I am aware, at all satisfactorily accounted for in pathology. For instance, we know that there is no hæmorrhage so dangerous or so fatal as that from the uterus: but here, now, we have fully explained the reason why it should be so. In uterine hæmorrhage the loss occurs below the heart, and thus the vascular system of the lower parts of the body, instead of being a reservoir (as in the former case of bleeding from the arm), is now a running cistern, and so the whole mass of blood, except what is immediately contained in the lower extremities, is lost. Hence the reason why hæmorrhages from the womb so frequently end in death. Hence, also, the lingering return of consciousness in more favourable cases, and the long-continued blanched appearance of the body in all.

Again, it is well known to surgeons, that wounds of the vessels of the lower extremities are more dangerous than those of the upper. The brachial artery may be divided, and death will not take place for several minutes: nay, cases have been known of persons falling in syncope, after this accident, and yet recovering, the bleeding vessels having become plugged with a coagulum during the syncope. But let the femoral artery be divided, and such happy events *never* follow; death here is almost instantaneous, and syncope and closure of the vessel by clot are of no value, all the blood having escaped. I have myself known the radial artery to have been divided at the wrist, and the patient to have fainted twice between the time of the accident and the arrival of a surgeon to secure the vessel; and yet recovery to take place. Such cases are by no means uncommon. But let the accident happen to the leg: let a tibial vessel be divided, and how seldom such pleasing results follow—I leave it to experienced surgeons to say. And why is there so much of difference? Not from the size of the vessel certainly; for though the femoral may carry a little *more* blood than the brachial, the radial carries *more* than the tibial. No! it is purely from their position.

And now I come to the fourth argument in support of the nervous system reacting on the vascular,—viz., the fact that a person not unfrequently falls syncopal on suddenly rising after long stooping; which occurrence, it is argued, can arise from no cause but from the brain being suddenly robbed of stimulus and pressure, and so failing to send nervous energy to the heart. But this is incorrect in every way, because although the overplus of blood at the brain may have been removed suddenly, there is no cause to believe that the natural quantity of blood should be removed with the overplus; and hence, instead of the heart stopping from the change of position, it ought to act more powerfully, in consequence of a clog being removed from the presumed source of its power.

In accounting myself for this form of syncope, I have but to recall the attention of my reader to a fact already stated in this paper—viz., that syncope will occur as readily from an obstructed heart as from an empty one, and the whole difficulty is removed. The upper part of the body has been held low for some time, blood has accumulated, and it is then raised erect. The result is obvious; down upon the heart rushes a torrent of venous fluid, which in a moment overburdens it completely; it ceases its play, and syncope necessarily follows.

Lastly, I come to the fifth argument—the effect of mental emotions on the circulation. That the heart will suffer from the effect of a mental emotion, or from pain (which, indeed, is a mental emotion also), and syncope sometimes result, I cannot of course deny. Still this fact conveys no evidence that either the brain or spinal cord are concerned in the first instance. They, in fact, suffer secondarily from loss of blood; and after them, the other parts of the body that come under their influence. But the heart itself seems to enjoy a higher position than these, if the term be correct, and one not at all dependent on such nervous agency. We do not as yet know sufficient of mental emotions to be able to account for their effects; but I think we may venture to conclude, that when they produce syncope, no part of the cerebro-spinal axis is instrumental in the result. On the contrary, as far as we can judge, the cerebro-spinal axis has no power to produce motion, unless stimulated by arterial blood.

Thus a person receives a mental emotion (let us suppose he fears an impending danger), and his heart begins to flag; but he is reassured, and in an instant it begins to regain its power, after which the motions of other parts, which certainly do derive energy from the nervous centres, revive exactly in proportion as the reinvigorated heart supplies them with stimulus.

There are one or two other forms of syncope, that have been traced to failure of the influence of the cerebro-spinal axis, upon which I may for a moment dwell. First, there is that following the rapid removal of large quantities of fluid from various cavities, pressure being omitted to be applied at the same time. This I conceive, however, also to occur mechanically. The effused fluid is secreted by some separate set of vessels; and hence, if that fluid be rapidly removed, these vessels, unless compressed, will, to make up for the deficiency, instantly fill with blood; and thus, the heart being robbed, syncope must occur, as in hæmorrhage. Results of a similar character will sometimes follow the administration of purgative medicines.

An aged man suffers from constipated bowels, for which he takes, or has given to him, a sharp purge. This commences to act, and during defæcation alarming symptoms of faintness come on. A medical man is summoned, and often finds the patient, carefully supported by his friends, sitting on the close-stool, dead; or sometimes death is so sudden, that the patient has not power to raise an alarm, and an unusual absence causing him to be sought for, he is found in the water-closet lifeless. These cases are very common; and in them death occurs from the very same cause as in the last instance. The intestinal vessels are suddenly called upon for a large supply of blood, the heart fails from the loss it sustains, and as the patient is in the most unfavourable position (sitting upright) death from syncope follows. Secondly, there are those cases, also very common, in which a person during recovery from some debilitating disease, as fever, dies suddenly from syncope, on rising into the erect posture In such instances the cause is always ascribed to the sudden stimulus that has been removed from the brain, but as in previous instances most incorrectly. The effect is in the simplest way mechanical. The body is made erect, the enfeebled heart barely possesses power to throw its blood up to the aortic arch, over which it all glides into the lower parts of the body; but as there is not sufficient *vis a tergo* to cause it to reascend in opposition to gravity, the central organ of the circulation is emptied almost at a stroke, and death is the inevitable and immediate consequence.

I have thus endeavoured to show that the cerebro-spinal axis is a part not primarily concerned in syncope, that it has nothing to do with the failure of the heart's motion, and that the great benefit of the horizontal posture arises purely from mechanical causes. But I would not have it surmised that I look upon the heart as being under no nervous influence. If the eye be carried back, it will be seen that the second form of syncope which I have noted down is said to depend upon "derangement of parts of the nervous system, which seem to have some connection with the heart's motion;" and, when this point is arrived at, the subject will again be adverted to.

In what has already been said, many interesting and important phenomena attending syncope, and recovery from syncope, have been brought forward, and I trust explained in a satisfactory manner. When we come to consider the *proper treatment* for the various forms of syncope, the importance of the preceding observations will become abundantly evident.

[To be continued.]

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

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[Continued from p. 234.]

No. II.

It is only necessary to refer to the Report, from our North American statistics, on the subject of the fearful ravages of small-pox among the Indian races, to corroborate our statement, and there trace the origin and extent of these ravages. In June, 1838, the southern parts of the United States, particularly Florida, Alabama, and Louisiana, were as healthy as could be expected; there was no appearance of yellow fever; and even at the Havannah only a few isolated cases occurred. During the autumn, winter, and spring, the small-pox carried off many victims among the whites, and thousands of the Indians; but after a general vaccination of persons of all ages in the territory of the Union, it gradually disappeared. On the other hand, the reports from the trading ports, on the western frontier of the Missouri, were most distressing; the number of victims, within a few months, was estimated at 30,000; and the pestilence continued to extend still further amongst the Indian tribes, in their remotest settlements, where no accurate or approximate return as to mortality could be obtained, unless from the vague reports of natives: suffice it to say, that the warlike spirit which but lately animated the several Indian tribes, and but a few months before gave reason to apprehend the breaking-out of a sanguinary war, was now completely subdued and broken. The mighty warriors became the prey of the greedy wolves of the prairie; and the few survivors, in mute despair, threw themselves on the pity of the whites, who, however, could do but little to help them in their hour of need. The vast preparations at this time being made for the protection of the western frontier, became superfluous, and were thus rendered unnecessary. Another arm appeared to be wielded in defence of the white inhabitants of the frontier; and the funeral torch, that lighted the red man to his dreary grave, became the auspicious star of the advancing settler, and the roving trader of the white race.

The introduction of the small-pox in this instance was said to be traced to a person on board a steam-boat, that had passed up in the previous summer as far as the mouth of the Yellow Stone, to convey both the government presents for the Indians, and the goods for the barter-trade of the fur dealers. The disease was spread amongst several of the crew of the steam-boat. The officers gave notice of it to the Indians, and exerted themselves to the utmost to prevent any intercourse between them and the vessel; but this was a vain attempt, for the Indians knew that presents and goods for barter were come for them, and it would have been impossible to drive them away from the fort without having recourse to arms. Two days before the arrival of the steam-boat, an express had been received at the trading fort, 2000 miles west of St. Louis, with the melancholy news of the breaking-out of the small-pox on board: this was immediately communicated to the Indians, with the most urgent entreaties to keep at a distance; but to no effect.

The disease first broke out about the 15th of June, 1837, in the village of the Mandans, a few miles below the American fort, Leavenworth, from which it spread in all directions with unexampled fury. The character of the disease was as appalling as the rapidity of its propagation. Among the remotest tribes of the Assiniboins, from fifty to one hundred died daily. The patient, when first seized, complained of dreadful pains in the head and back; and in a few hours death put an end to his sufferings. The body immediately turned black, and swelled to thrice its natural size. The once powerful tribe of Mandans was reduced to a comparatively few families; and subsequently, from 1500 to thirty persons. The other neighbouring tribes suffered nearly to a like extent, and few of those that survived the disease ever recruited their usual health or vigour; and many put an end to themselves by knives or muskets, as life now became a burden to them.

The estimated mortality amongst the various tribes from the spread of this awful scourge, in 1837 and 1838, on the western frontier of the United States, was over 60,000. Taking the approximate estimate of the natives of our Polynesian possessions, we shall find that the same mortality attended the introduction of the disease amongst the aboriginal tribes.

The first introduction of disease and dissipation in the southern hemisphere was owing to whaling vessels putting in at the southern ports of New Holland, Van Diemen's Land. and New Zealand; and it was only by the active measures of the colonial authorities in introducing vaccination amongst the natives of the different colonies, that a remnant of the aboriginal race are still living; so that it will now, I apprehend, very generally be admitted, that as colonization progresses and extends itself, so, in the same ratio, will it be observed, do the aboriginal natives diminish and disappear, whether belonging to an island or a continent; but naturally more expeditiously in the former. In taking a short retrospect of the census of the different countries, as far as we can well ascertain this point from statistical information on the subject, we shall be much struck with the rapid decline and diminution in numbers of these different races. Indeed, a view of the progress of civilization, as it is called, and its effects upon the native inhabitants of our colonies, presents a melancholy history.

In North America we perceive an utter destruction and extinction of many tribes, and the depopulation of others. It is supposed, in round numbers, that the numerous tribes, many of which had practised agriculture when the early settlers first colonised North Mexico, and then amounting to probably one million and a half of people, are now reduced to less than two hundred thousand.

From a population supposed to extend to nearly a million of inhabitants, in New Zealand, the tribes have been fast decreasing, and two hundred thousand are supposed to be the remnant of the population left by European rapine, cupidity, and diseases of the worst character: such as venereal, ophthalmia, measles, scarlatina, and small-pox.

In regard to vaccination abroad and in our colonies, it may be well to notice here, that, owing to impure and vitiated lymph, much of the benefit of vaccination was lost to the people amongst whom, and for whom, it was carried out, owing chiefly to the disregard in its selection at home: it proved inefficacious, of course, where it was impure and vitiated, and in all probability entailed a worse disease in those and their offspring amongst whom it was introduced. The profession, as yet, do not seem to attach so much importance to this point as is absolutely necessary. There is no doubting the fact, that much of the mischief of what are commonly called hereditary taints is acquired in this way; and what has been of late years noticed, and called very improperly consumption, amongst native tribes, is nothing more than an hereditary taint of venereal or scrofula thus introduced amongst them by impure and vitiated lymph from Europe. Tubercular disease is not indigenous to these climates, and the affection noticed is purely an atrophy or wasting of the muscular tissue, superinduced by an animal poison introduced into their systems, as already mentioned; and we know the laws by which morbid poisons thus introduced act, and at how remote a period, and for a succession of generations, in modified forms.

Let us next refer to the reports from South Africa. The population of the Hottentot nation was formerly estimated to have exceeded 200,000, and by the most recent authentic reports is now reduced to less than 32,000. In the month of May, 1843, a slave vessel from that coast, taking about 1000 souls from the country around Angola to the Brazils, put into a small port south of Pernambuco. During the voyage small-pox appeared on board, and in a fortnight 300 souls were thrown overboard; and in a week after its arrival between 300 and 400 more died of the disease; so that only somewhat more than 300 survived the passage across, which did not occupy more than the usual time of from four to five weeks. The cause of this great mortality arose from the pursuit of the slave vessel by one of our cruisers, and, consequently, no attention or regard was paid to the necessities of these poor creatures: and this is one of many instances that could be noticed of the great sacrifice of life arising from this totally ineffective system of putting a stop to the slave trade. The subject is one claiming the considerate attention of the philanthropist and of a paternal government. Were the matter optional with the slaves themselves, they would admit, as they have repeatedly done already to those who talked to them on the subject, that they preferred to be permitted to be taken and sold as heretofore, than to be subjected to this certain death, in most instances, by a system which cannot do what would be hoped for by all—namely, act as an efficient and complete check to this trade in human beings. These poor people are cooped up in the most restrained postures, and are not able to change their positions for several days for *any purpose*, when pursued by our cruising vessels; and no idea can be formed of their wretched condition. The longer the chase of our men-of-war continues, the more it adds to their misery, and disease in one shape or another is sure to present itself; and the result may be well supposed under such circumstances.

The diseases incidental to Africans and other aboriginal tribes, before the introduction of the diseases already named as imported by Europeans, were chiefly bowel and stomach affections; and these mainly owing to their general use of fish, unripe and wild berries, and raw uncooked vegetables;—and as rice and bananas were introduced at a later period, inflammatory attacks and fevers became more frequent. Amongst these tribes, as amongst the natives of oriental countries, one common affection seems very generally prevalent—that is, acidity of the stomach; and to allay the pain of the same, it is a common custom with them to take pieces of chalk, or an argillaceous earth, and champ it between the teeth; and this affords them immediate relief, no doubt acting as an alkali. Married females abuse this practice, and suffer from it afterwards; and so do the males to a certain extent.

This chalky powder accumulates in the bowels, and remains for a considerable time; and is a fertile source of mischief, by causing irritation, and not unfrequently producing diarrhœa and dysentery. This chalk causes the destruction of the enamel of the teeth, and gives them the flattened surface noticed by several travellers. This appearance was attributed (by a gentleman of some repute as a microscopist in London) to the frequent use of rice, and stated that this condition of the teeth was owing to the quantity of siliceous matter in the rice they eat. It may assist in producing this state; but I apprehend the other cause is the more likely to effect so remarkable an alteration.

The ague or intermittent fever was not known amongst our Polynesian subjects until the slop clothing of England was introduced amongst them. They incautiously had recourse to heavier and much warmer covering than they were accustomed to, or the climate required; this at once exposed them to transitions in temperature, coughs and colds, and latterly influenza. Catarrhal affections and acute inflammatory complaints were generated; and with the habits of dissipation introduced at the same period, disease and death quickly ensued.

. The only spirit to which the New Zealanders were accustomed before this was a mild arrack, or gin-like spirit, distilled from the Tupaca berry; and this does not intoxicate or produce the bad effects of our spirituous liquors; it acts merely as a narcotic, and produces the exhilarating effects of a spirit, without its pernicious or demoralizing consequences. Coffee, tobacco, tambac, and Indian hemp, in tincture or infusion, produce a similar exhalarating effect upon the natives of China, India, and Turkey. The latter narcotic is had recourse to very extensively in the East, especially in the form of inhalation; so, also, is it frequently used in Persia, and in many parts of Europe latterly, introduced, no doubt, by travellers and others who have visited the East, or resided there for some time. It is so mild and agreeable that it is very difficult to overcome the habit acquired, once that a person has become accustomed to its use. It has proved beneficial as an expectorant, and is an old, valued therapeutic agent amongst native Eastern practitioners as an antibilious remedy and antispasmodic. I have tried it in many cases myself, of which I propose to make mention on a subsequent occasion, in my Hospital Reports from Damascus.

Having said so much on the subject of small-pox, it may be well to notice briefly the progress of cholera amongst Indian tribes. With few exceptions it nearly pursued a like destructive course to that of small-pox in every instance, and assumed, if any, a more aggravated character than amongst the inhabitants of civilised countries, proving fatal in a few hours, without any of the premonitory symptoms witnessed in Europe; the bodies likewise turned livid, and the process of putrefaction set in sooner than amongst any of the white people seized with the disease at the same time amongst them. It may be right here to state, that orientals and aboriginal natives are terribly alarmed by any appearance of sickness or disease, but more especially such as cholera, plague, small-pox, or fevers; and if attacked, they at once lose all control over themselves; "their spirit dies," as they express it, and they seldom rally from a severe sickness; the fright at being ill nearly kills them. They have no hope, and of course no faith in remedies. The advantages of vaccination seemed to be the first circumstances which made an impression upon them; and latterly, when cholera was combated by medical agents, and was attended with good results, they were more alive to the importance of having recourse to medicine as a remedial agent; and they invariably evinced great gratitude for services rendered them on these occasions. This I found amongst all tribes of Indians in the South and in the West. It is proverbial amongst the natives of the East, that the hackeem, or physician, is little less than a god; and they look upon him as having the power of life and death in his hands. In hours of sickness they prostrate themselves before him, kiss the hem of his dress, and beg and pray of him to rescue the patient from a premature grave.

CHOLERA AND YELLOW FEVER.

Letters from Malta and Rio Janeiro to Dr. J. B. Thompson.

Malta, 15th Dec., 1860.

My dear sir,—I am just in receipt of

your letter; and although I have not seen Mr. Wright on the subject of your paper, I will begin to answer it. I shall be most happy to contribute all in my power to forward the objects of the Society you name, and Mr. Wright will also second your views on this subject. I now propose to give you a brief notice of the visitation of cholera to our island. It appeared both this year and in 1837 in the month of June; and on the 9th of that month this last summer, the first case reported was an isolated one of unknown origin; then another and another, without any traceable communication, and at isolated points.

In 1837, the disease first appeared in the Asylum for Aged Persons; and, isolated as this building was, and away from public intercourse, it was so far remarkable. This last year certain localities suffered chiefly, whereas others escaped. There were comparatively few cases of true Asiatic cholera; and some casals and villages did not suffer at all. The mortality was about 2000, something less than 2 per cent. of the population of the whole island. One company of the 44th Regiment suffered severely, losing more than half its number, besides women and children. The company was quartered by itself, in a barrack in the suburbs. There were many cases of sporadic cholera in 1848, and also of genuine Asiatic.

During the visitation of the disease at Tunis, on the Barbary coast, my son went there; and I hope to be able to submit his report of its origin, progress, and peculiarities at that place. The mortality was very considerable. I send you a letter from Rio Janeiro, from my friend Dr. Deas, R.N., which may interest you and your Society. It is as follows, viz.:—

FEVERS—VARIOUS KINDS NOTICED.

Letter from Dr. Deas, R.N., from Rio Janeiro, 1850.

"The yellow fever did not cease before it had carried off, ashore and afloat, certainly some 18,000 souls—many say 19,000. As the greater portion of these were from among the foreigners residing here, or who were here in ships, and who in all do not muster 35,000, you must confess that the disease was sufficiently severe. Rio has had no yellow fever for nearly a century, if it ever had. No case recognised as such showed itself until some people arrived here from Bahia (where it was raging), and who sickened and died; upon which hundreds quickly followed. So far matters look well for the advocates of contagion.

"As you know, the endemic disease of this place is remittent fever—well and strongly marked remittent; and until the last ten years there was no variation from this, so far as either records or man's memory extends. In 1840 the fever was general, and universally fatal. In 1841 the fever was less general and less fatal; but people died in great numbers from enteritis and other bowel complaints. In 1842 and 1843 the fever was very slight, but the bowel affections continued to increase year by year, at the regular fever season only, and to subside the same season. In 1844, both the fever and enteritis were unseen; but scarlatina (before unknown), masked in character and malignant in type, respecting neither sex, age, nor colour, carried off great numbers. In 1845 there was a milder scarlet fever, but very prevalent, to the entire exclusion of the remittent. In 1846 a continued fever, having a half-and-half relationship to scarlet fever and measles, attacked, with more or less intensity, every man, woman, and child in and around the city. Few died, but all suffered. Swellings and pains about the joints were so considerable, that many suffered and were disabled for months afterwards. This was designated the polka fever, from the almost invariable twitching in the limbs for some hours at the first attack: this last symptom is one not recorded by the profession. In 1847 and 1848, many of the characteristics of the polka fever were retained, and were of a continued, and not of the remittent kind. In 1849, in the month in which these diseases usually showed themselves, yellow fever appeared, with one exception, in six persons having lately arrived at Rio from Bahia; and within a very short time it was all over the city, and swept off the numbers as above mentioned.

"To account for the annual changes in the diseases of the place, there are, unfortunately, no sufficiently correct meteorological observations; but we have the universal remarks of all classes, from the intelligent merchant and respectable coffee-planter to the workmen, whether in the city or in the secluded valley, and who seldom see a strange face, that for ten years past the seasons have been changing. These changes amount to this, that the summers have produced few sea-breezes, and fewer thunder-storms, and little rain; the winters have been unseasonably warm, with an undue prevalence of northerly winds."

These latter remarks of Dr. Deas will be corroborated by the result of my own observations* in the Brazils in 1843, and in the colonies of New Zealand and New South Wales in 1842; and latterly, in my Statistical Reports from Turkey in Asia, from 1844 to 1849: a considerable variation will be perceived in the winter months; some few winters being very mild, and others comparatively severe,—indeed, approaching an English winter.

"This, my dear sir, is my friend's account of the epidemic in the Brazils. We only see here what we have frequently observed, that where there exists an epidemic influence, a state of atmosphere combined with other concomitants, fitting for the propagation of any fever, the introduction of any sort of fever at that moment acts as a leaven to infect the whole mass of air, giving the type to the epidemic. This is not contagion.

"When Sir John Middlemore was Governor of St. Helena, and my friend Dr. Barry Chief Staff-Surgeon, a ship arrived from Bahia with fever on board. He resolutely refused to allow of any communication with the shore. The ship went on to Ascension, where the fever spread among the garrison and inhabitants, numbers dying. The same was the case with the "Eclair," at the Cape Bonavista. It may be the same with the cholera; but at any other season it would be impossible to introduce the disease. Then it becomes a question how far quarantine may be a safeguard? Can we know what is the state of the air, or other influences, at the time, whether fitted for the propagation of mischief or not? The point is open still. That fear cannot extend a disease beyond the zymotic influence is clear to me. I was at Gibraltar in 1828. No fevers occurred in the neutral ground, nor on Europa flat, whatever communication there was between the sick; and even at these places men bringing fever with them from the Rock would sleep with their families, yet no member of these families would catch the fever from such communication. Nobody catches cholera by contact.

"Truly yours, &c. &c.
"T. T. SANKEY."

[To be continued.]

CITY OF LONDON CONSUMPTION HOSPITAL.

THE Anniversary festival of this institution took place recently at the London Tavern. Mr. T. Baring presided. The subscriptions announced during the evening amounted to the large sum of £3,100, and there seems every prospect that the supporters of the Charity will very shortly have a sum collected sufficient to defray the expense of the new building, for which they have obtained a very eligible site in Victoria Park. The designs of the architect for this edifice contemplate the provision of eighty beds for in-door patients, and the whole establishment will be arranged in a manner worthy of the humane and excellent objects for which it has been founded. When it is considered that a third of the entire mortality in the metropolis arises from that class of diseases which this hospital is intended to combat; that chest complaints commit their principal ravages among the poor, and at that period when life is most valuable; above all, that the provision of medical aid for consumptive cases is extremely inadequate, as compared with those other forms of sickness to which the indigent of the metropolis are exposed, it will be felt how urgent are the claims which such an institution possesses upon public benevolence. The City of London Consumption Hospital was established in June, 1848, and during the short space which has since elapsed its benefits have been extended to 7,489 patients, of whom 6,555 have been discharged as cured or relieved. Surely such a fact indicates as strongly as facts can the unfortunate fallacy under which the public have long laboured — that it is useless to attempt the treatment of a class of diseases hitherto believed to be hopeless. It appears, by the report, that of 2,204 patients admitted during the last year, 511 were from the City, 141 from Finsbury, 131 from Spitalfields, 126 from Whitechapel, 251 from Bethnal Green, 259 from Hoxton, the City Road and St Luke's; and 110 from Holborn, Bloomsbury, and Islington. This shows the local usefulness of such an institution, and illustrates besides the wide field for charitable exertion among the poor.

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* See Reports on Statistics of Climate, now publishing in MED. GAZ.—J. B. THOMPSON.

ON A

SUBSTITUTE FOR THE SPECULUM IN THE TREATMENT OF SOME FORMS OF UTERINE DISEASE.

By Thomas Inman, M.D.

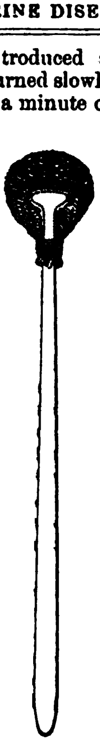
In common with many of my medical brethren I have a great objection to use the "speculum uteri," except as a *dernier ressort*. I have therefore endeavoured, in practice, to cure by other means if possible, and so spare my female patients the infliction of a disagreeable and somewhat indelicate operation.

In many instances I have been perfectly successful, by a plan which has nothing to recommend it but its extreme simplicity.

I will take one case as an example of many. An extremely delicate young lady consulted me in consequence of intense pain referred to the bottom of the back. She had recently married a robust man who, after a few weeks, was obliged to leave her for a prolonged sea-voyage. Shortly after her marriage, she had a smart attack of hysteria, followed by profuse catamenial discharge. Subsequently, she suffered from intense pain at every recurrence of the monthly period; excessive and constant pain in the back; oppression and weight at the pubes; dragging in the groin; irritability of the bladder, and a copious purulent discharge from the vagina. These symptoms had continued some weeks before I saw her.

There could be little doubt that the case was one of engorgement of the os uteri, if not of a more serious character.

As I wished to cure her without the use of the speculum, I directed her to adopt the recumbent posture, tonics, alteratives, &c.: and made an instrument for her, of which I send you a drawing. This was merely a piece of sponge tied to a stick of gutta percha. It was used twice daily, morning and evening, in the following manner:—Having been first washed in water, and squeezed, it was passed gently to the top of the vagina, turned round on its axis, withdrawn, washed, dipped in a *saturated solution* of alum (or other liquid), and again introduced as far as the uterus, and churned slowly up and down the vagina for a minute or two.



Gutta percha rod, ¼ inch in diameter, with button at the top. On this is tied a piece of sponge about the size of a walnut. The button prevents it being left in the vagina. Ten inches is a convenient length for the instrument.

The effect of this was—first, to wash away any adherent mucus or pus,—secondly, to apply the medicated lotion to every part of the vagina and the os utari. The yielding nature of the gutta percha staff prevented any undue impulse being communicated to the organs. In the course of about three weeks my patient was perfectly cured.

Any practitioner can make the instrument himself, (or it may be purchased at a very small rate, the cost of the material not exceeding three-pence,) from the accompanying drawing.

It will be found, in Lying-in Hospitals, and Dispensaries for the Diseases of Women, a capital and cheap substitute for the syringe in all cases of leucorrhœa, &c.

Liverpool, Feb. 12, 1851.

CASES HAVING REFERENCE TO THE SIGNS OF VIRGINITY.

By W. B. Kesteven,
Surgeon.

The occasions upon which a medical man may be called upon to depose to the presence or absence of the physical indications of female chastity, are of two very distinct, but equally important classes,—public and private. In the first, his statements must affect not only the happiness, but may also involve the liberty, and, in some countries, even the life of one individual. In the second, his opinions may release from unjust suspicion, or they may affix a stigma which shall attach during life, blasting fair prospects, and rendering existence wretched.

It is, therefore, a matter of no slight importance that the student of medicine should acquaint himself with the true nature of "the signs of virginity," which the study of anatomy, and clinical observation, may teach him (at least by contrast).

If the medical witness shall give a hasty opinion, or betray ignorance of these signs, he may inflict injustice and injury, from the effects of which an innocent person may perchance escape only by the entire want of the moral indications of chastity possessed by the accuser. In an instance which has recently occurred, it is clear that the party accused narrowly escaped conviction solely from the entire want of truth or probability evinced in the statements and character of the accusing party.

It is not only, however, as has been stated, on occasions when public indignation is excited, or public feeling is warmly called forth, by the perpetration of so gross an outrage upon all the laws of morality as is implied, either in the commission of the act of rape, or of its false accusation,—an accusation which Sir Matthew Hale justly spoke of as being "easy to be made, harder to prove, but harder to be defended by the party accused." There are, besides these, numerous *private* occasions, in which a knowledge both of the healthy and of the morbid conditions of the female sexual organs is required, in order to determine in any case whether violence has been attempted, or whether, so far as physical indications afford means of judging, female chastity has been retained inviolate.

Of these private investigations the most frequent are those in which vaginal discharges in young children are mistaken by the parents or friends for the evidences of sexual intercourse by elder male persons having gonorrhœa or syphilis.

Such cases have frequently occurred to myself, as they have to others; and although now better understood by the profession than formerly, yet so strong is often the notion entertained by the public with regard to these cases, that it is not unfrequently extremely difficult to persuade parents that we have merely to deal with the results of ordinary disease, and not with those of violence. This notion, in several cases that have come under my notice, has unfortunately been confirmed by hasty and erroneous opinions given by surgeons on the mere representation of the friends, without a proper examination having been made. It is scarcely possible to speak too severely of such culpable and wilful ignorance.

Within the last few weeks, a child of nine years of age was brought to me, upon whom it was suspected that violence had been inflicted. A careful examination afforded evidence that the case was simply one of *vaginitis*. There was complete absence of any indications of violence; for although it can scarcely be believed to be possible that sexual entrance into the vagina of an infant could, under any circumstances, be perpetrated, yet in the attempt much contusion of the young and delicate soft parts must have ensued, had it been made. The parents were satisfied; and an individual unjustly suspected was forthwith released from so odious an imputation.

Dr. Taylor* observes, in referring to a case in which Baron Gurney decided that rupture of the hymen was necessary to establish the completeness of the crime:—

"According to this decision, the duty of a medical man would simply consist in determining whether the hymen was entire or not. It is, however, hereby left uncertain how those cases would be disposed of where the hymen had been destroyed by disease, or was congenitally absent; or where, as in a case lately tried, the hymen was only partially ruptured. But it is more than doubtful whether our judges would adopt this view; they would, most probably, require a medical opinion, whether there might not be some degree of penetration—as in the vulva—without necessarily rupturing the hymen; and upon this point there appears to me, medically speaking, to be no doubt. Further, this penetration might take place without leaving any marks of violence about the pudendum."

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* Medical Jurisprudence, 2d edit. p. [illegible].

From this opinion there can be no dissent by those who have had occasion practically to investigate the question. Another case, to be related in this paper, lends additional confirmation to this doctrine: indeed, it seems to be a physical impossibility that the complete physiological act of copulation can be effected between a male adult and a female infant. The above-quoted high authority in forensic medicine also remarks on this point—"It is doubtful whether, in any case, there could be a complete introduction of the male organ into the vagina without laceration and destruction of the soft parts." There is, indeed, but little room for doubt on this point. The narrowness of the vagina, and the general smallness of the parts, would present a physical obstacle to admission, and protect the hymen from more than, at the most, partial rupture. In the authenticated cases which I find on record the hymen was unruptured, although sufficient evidence of violence, in most of these instances, existed on the external organs. The crime in all cases is equally enormous; its completion, therefore, should not be permitted to be placed in doubt by medical disputes "about degrees of penetration."[*]

Another and less frequent class of *private* occasions in which a medical opinion may be required as to the physical indications of chastity, has reference to the fulfilment of the matrimonial contract. Under this class I have placed the following case, which possesses, also, several other points of practical interest:—

On the 9th instant, a young woman, apparently about twenty-four years of age, called upon me to consult me with reference to the state of her sexual organs. It was not without very great hesitation, and the manifestation of much nervous excitement, on the patient's part, that I could learn the cause of her visit, or the reason of her consulting me. I succeeded at last in gathering from her the following narrative:—

When about the age of ten years, a man had attempted to violate her person. She did not experience pain at the time, neither does she recollect that she suffered pain or inconvenience in walking, &c., subsequently. She does not remember that any bleeding occurred. She informed me that she is now under a promise of marriage; but hesitates to fulfil her part of the contract, under the impression that, from the circumstance stated, she shall not do justice to the expectations of a husband.

I endeavoured to satisfy her mind that, from the distance of time, her youth at that period, and the history she gave of the occurrence, no doubt need be entertained as to her condition, provided no subsequent intercourse had been attempted or effected; but that the point could not be positively determined without a proper examination.

The assurance did not calm her anxiety or remove the depression of spirits under which she described herself to have been weighed down for many months, on account of this matter. As she had brought no female friend with her, but was desirous that the examination should be made, I appointed another time for an examination, hoping that in the interval she would view things in a different light. In the evening of the same day she returned with the same object. Having procured a female third person, I made the required ocular inspection, and found that the external organs, when the labia were separated, presented a redder appearance than usual, as contrasted with the paleness of the mucous membrane of the vagina. A portion of the hymen remained on each side of the entrance to the vagina, in the form of a semilunar fold of membrane, having a smooth defined border, interrupted below by a jagged edge, which, so far as I am able to form an opinion, might have been the effect of violence inflicted within a year at the utmost, and which, from the congested and high-coloured state of its edges, did not seem to have any reference to what had taken place at the age of ten years. The vagina was small, its mucous membrane pale, and did not give the idea of having been distended by sexual intercourse.

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[*] Dr. Taylor, ibid.

Under these circumstances I felt that a very guarded answer must be given to the question—*An sit virgo vel non?* thus put by the individual herself. I told her that I could not say that there were no traces of injury having been inflicted at some time, but that, nevertheless, as it was slight in extent, if she had really told me the simple truth, and not kept back any fact of importance, she would not be justified in breaking off her engagement on account of what she had related to me. She left my house, not seeming to be at all reassured or convinced by my remarks.

A few days afterwards this young woman called upon me again, and asked if I thought that the traces of injury that I had alluded to might have been produced by her own effort "to bring something away?" She stated that, being a dressmaker, she was frequently so placed as not to have an opportunity of emptying her bladder for many hours together; and that on one occasion, a few months ago, this had produced such violent bearing down and forcing pain, that she thought there must be something "coming away," and that she had endeavoured to relieve herself by introducing her finger into the vagina. It was admitted that such might be sufficient to have caused what clearly was a ruptured hymen. She left me, however, apparently no better satisfied. I have not since heard of the case.

This case has suggested to me the following points of practical interest:—

As to the real cause of the laceration of the hymen, there is here some room for doubt. The patient admitted that she had, since the age of 17 or 18 years, been exposed to great temptation (though it was not easy to understand, from this expression, how far she may have implied attempts at connection); but she denied the absolute perpetration of the act. It is, therefore, not certain that the laceration may not have been the effect of masturbation.

With regard to the caution with which an opinion was expressed on this case, it is worth while to observe here, that, if the true state of the organs had not been represented to her as it was, she would have known better herself, and would have totally disregarded the opinion, confirmed by her subsequent visit, when, from her admissions, it appeared that she was conscious of having suffered violence of a certain sort at a later period; while it was obvious, from her account of the attempted defloration at the age of ten years, that the rupture of the hymen now observed could not have dated so far back.

The altogether suspicious character of the case enjoined caution, and enforced most strictly the rule which I remember was so emphatically laid down by the late Dr. Hugh Ley, of St. Bartholomew's Hospital, and which is also enjoined by the suggestions of ordinary prudence—the rule, never to make an examination of the female organs of generation without the presence of a third person. I had no guarantee that in this case, if I had incautiously made the examination without the protection of a respectable witness, I might not have been charged with being the author of the very injury which I was called upon professionally to depose to. Analogous false accusations have, within my own personal knowledge, been the cause of great damage to the reputations of medical men. In the present case, had such a charge been made, an apparently correct opinion might have been formed by a medical examiner.

This case also illustrates a point previously dwelt upon in the present communication—viz., the extent of injury which may be done to the external organs in childhood by the attempt at violation. The signs of recent laceration of the hymen here met with sufficiently proved that it had not been ruptured at the age of ten years; while, at the same time, it shows also that the nearer to the date of the injury the parts are examined, the more striking will be the indications of defloration in any case.

Further, this case shows that, in unchaste women, the evidences of sexual intercourse can never present such an aspect of recent injury as to mislead a competent judge.

Upper Holloway,
Feb. 1861.

MEDICAL GAZETTE.

FRIDAY, FEBRUARY 28, 1851.

THE letter recently addressed to SIR GEORGE GREY, by DR. GEORGE ROBINSON, of Newcastle-upon-Tyne, is at the present time deserving of a more prominent notice than that which it would receive in the Review department of our Journal.*

The writer treats the subject of the reorganization of the profession in a temperate and conciliatory spirit; and if all his views be not susceptible of practical application, he at any rate offers good suggestions to those who are desirous of making a venture at medical legislation. Dr. Robinson entertains the opinion which we believe now to be most prevalent in the profession, "That the existing Colleges of Physicians and Surgeons, properly governed, and aided in their reforming efforts by the timely extension of their respective Charters, are sufficient to ensure the maintenance of the honour, dignity, and general character of the medical profession, and to enable the well-disposed among its members to associate for the common good; and that any official connection between the general body of the profession and any subordinate institutions would be both *unnecessary*, and *detrimental* to the best interests of the former."

As many of our readers may not see this pamphlet, we shall here quote the author's opinions on the present state of the profession, as well as the suggestions which he proposes for its improvement.

Dr. Robinson regrets that the power of examining and licensing candidates for general practice, was not obtained by the Colleges of Physicians and Surgeons in 1815, and remarks that "by a most extraordinary and offensive exercise of legislative power, the respectable Company of Apothecaries, the position and acquirements of whose members doubtless qualified them admirably for the superintendence of the important trade of which they were the recognized head, was constituted an examining and governing Board, to which the great majority of English surgeons have since been bound to submit." The consequences are well known, and are thus depicted:—

> "And now that the license of the Apothecaries' Company is required for many public appointments, and is the only certificate or diploma which provides a legal power for recovering debts due for Medical attendance, its possession is rendered compulsory on so many persons as to preserve a connection between that Company, and a large portion of the most respectable provincial Surgeons. But this connection has ever been a forced and unnatural one. Its inevitable tendency has been to degrade the Medical Profession as a body, through a vain attempt to re-establish the order of things which existed two or three centuries ago. And though this unjust and selfish effort of the former heads of the profession to elevate themselves by depressing their brethren has been happily frustrated by the increased intelligence of the age, and by the late rapid diffusion of Professional knowledge among every section of the Medical community, I feel the utmost confidence in asserting that an immense majority of the Profession would hail with intense satisfaction the final dissolution of all educational and governmental connection between any portion of the Medical Practitioners of England, and a trading Guild, occupying the anomalous position now held by the Apothecaries' Company of London."

Further:—

> "The present condition of the Medical Profession exhibits the melancholy results which might have been anticipated from the long-continued neglect of its interests and public relations by

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* A Letter to the Right Hon. Sir George Grey, on some of the Social Relations of the Medical Profession. By George Robinson, M.D., Newcastle-on-Tyne. London: Churchill. 1851.

he legislature. It is impossible on an occasion like the present to recount all the grievances and injuries which now afflict the Profession, derived partly from the foolish dissensions of many, and the discreditable conduct of a few of its own members, and in part also, but in a still greater degree, from the knavery, ignorance, and fanaticism which assail it from without. The numerous channels through which entrance can be obtained into the Medical Profession, and the wide diversities existing in the duration and nature of the probationary studies required, in the severity and mode of conducting the examinations, and in the relative status of the various bodies conferring Medical diplomas, have, more than any other causes, tended to excite jealousies and annoyances in the minds of the legitimate Practitioners of Medicine. As illustrative of the lamentable effects of the dissensions thus induced, may be mentioned that deterioration of professional tone and feeling which the frequent discussion of trivial grounds of difference is so apt to engender, the absence of a sufficient amount of proper *esprit de corps* to ensure unity of sentiment and purpose, and the consequent erection of unnecessary and unnatural obstacles to that general and social elevation of the Medical community which would soon follow a state of unanimity and concord among its members. Then, in addition to the injuries which the profession suffers from the causes just referred to, it is preyed upon, and its members—men who by painful studies and large expenditure of time and money have qualified themselves to minister to human suffering—are openly robbed by a host of uneducated pretenders, who annually draw from a defrauded public large sums of money. And, as if to add to the grossness of the injustice in this particular case, the Profession thus cheated of a portion of its income, is at the same time disgraced in the public sight by the very same persons, who, being tacitly permitted by the law to assume any professional title they think proper, daily heap ill-merited odium on our calling by their dishonourable, offensive, and fraudulent conduct. Under such circumstances, while many of the most active of our body are engaged in profitless contentions, and the majority are disgusted with, but at the same time hopeless of redressing these

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essential element of success.

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swindlers in any legal responsibility.

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not only assists in injuring and de
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to a much greater extent than would
first sight appear, the civil rights and

property of individual members of the general community. Thus, under the existing law, on the production of the certificates of two legally qualified Medical Practitioners, and at the request of a relative or friend, any person may be arrested as insane, and confined in a lunatic asylum. But will it be credited, that beyond the mere declaration of the Medical Practitioner signing the certificate, the law requires no further proof of his Professional or moral fitness for discharging so important a duty?* He may falsely and fraudulently have assumed a medical title which he never legally possessed; he may have obtained possession of the diploma of a deceased Practitioner, and represented it as a proof of his own qualification; or, in the event of his possessing a proper diploma, he may be a man of utterly debased moral feeling, an outcast from the society of his Professional brethren; or again, a man intellectually unfitted for the determination of the mental state of an alleged lunatic. But at present what security is there for the Public against these possible sources of injustice and fraud? The same evils, it is also evident, may, and undoubtedly do, in some measure invalidate the Medical opinions by which the vast operations of Life Insurance Companies are chiefly guided. For in the existing state of the profession they can have no perfect guarantee of the medical or moral qualifications of the Practitioners, to whom they are compelled to refer for information as to the past and present state of health and general eligibility of a person whose life may be proposed for insurance. And a similar feeling of insecurity must, from the same cause, be experienced in all business transactions which require or rest upon Medical certificates. The remedy for this evil will hereafter be briefly noticed."

It cannot be doubted that the general interests of the Profession are those of the public individually and collectively, and Dr. Robinson has shown great tact and judgment in placing the fact in a more prominent position than it has had in the numerous pamphlets on Medical Reform which have hitherto been published. All must agree with him in the three propositions:—1. That the Public has a right to expect that every man, assuming a title implying, on the part of the holder, the possession of the special knowledge required for the successful treatment of disease, is in reality the skilful and instructed person he represents himself to be. 2. That men bearing the same professional titles and practising in the same country shall have pursued the same course of studies, and have been subjected to the same examinations. 3. That medical men who have disgraced themselves or their calling by criminal or dishonourable conduct, shall no longer be allowed to remain in the profession.

The present system is the reverse of all this; and until a remedy be applied for the removal of these real grievances, both the public and the profession must suffer. We shall reserve for another occasion a consideration of the remedial measures proposed by the writer of this letter.

LIABILITIES OF PATIENTS—RIGHT OF ACTION FOR MEDICINE AND ATTENDANCE.

THE following case came before the Court of Queen's Bench last week:—

Elliott v. *Clayton.*

The question in this case was, whether an uncertificated insolvent, being a general medical practitioner, could maintain an action for his attendance on, and medicines supplied to a patient.

Mr. Justice PATTESON delivered the judgment of the Court, to the effect that the plaintiff was in substance carrying on his business as before his insolvency. He was in possession of the original stock of medicines, and was supplied with fresh medicines from time to time upon fresh credit. His case could not, therefore, be distinguished from a previous case which had been decided. The rule to enter the verdict for the defendant must, therefore, be made absolute.

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* Vide a short Paper on the Amendment of the Law of Lunacy, published in the LONDON MEDICAL GAZETTE, 1849.

he legislature. It is impossible on an occasion like the present to recount all the grievances and injuries which now afflict the Profession, derived partly from the foolish dissensions of many, and the discreditable conduct of a few of its own members, and in part also, but in a still greater degree, from the knavery, ignorance, and fanaticism which assail it from without. The numerous channels through which entrance can be obtained into the Medical Profession, and the wide diversities existing in the duration and nature of the probationary studies required, in the severity and mode of conducting the examinations, and in the relative status of the various bodies conferring Medical diplomas, have, more than any other causes, tended to excite jealousies and annoyances in the minds of the legitimate Practitioners of Medicine. As illustrative of the lamentable effects of the dissensions thus induced, may be mentioned that deterioration of professional tone and feeling which the frequent discussion of trivial grounds of difference is so apt to engender, the absence of a sufficient amount of proper *esprit de corps* to ensure unity of sentiment and purpose, and the consequent erection of unnecessary and unnatural obstacles to that general and social elevation of the Medical community which would soon ollow a state of unanimity and concord among its members. Then, in addition to the injuries which the profession suffers from the causes just referred to, it is preyed upon, and its members—men who by painful studies and large expenditure of time and money have qualified themselves to minister to human suffering—are openly robbed by a host of uneducated pretenders, who annually draw from a defrauded public large sums of money. And, as if to add to the grossness of the injustice in this particular case, the Profession thus cheated of a portion of its income, is at the same time disgraced in the public sight by the very same persons, who, being tacitly permitted by the law to assume any professional title they think proper, daily heap ill-merited odium on our calling by their dishonourable, offensive, and fraudulent conduct. Under such circumstances, while many of the most active of our body are engaged in profitless contentions, and the majority are disgusted with, but at the same time hopeless of redressing these evils, it cannot be a matter of surprise that Medical Science and the study of disease, in its higher and most important branches, should languish; or that in consequence of this inaction a variety of spurious imitations of the Medical Science of nature, and innumerable crazy theories of life and disease, should unceasingly be pressed upon public attention, and supported in some instances by men whose education ought at least to have enabled them to discriminate between a natural truth and falsehood. It may further be observed, that the general Public, for whose benefit the Medical Profession may be presumed to have been constituted, and whose interests are professedly the chief and sole objects of legislative solicitude, has also suffered, and still continues to suffer to a very great extent, both directly from the same evils which affect our Profession; and also indirectly from the disorganization and depression of the Medical body. And in neglecting to give due prominence to the claims of the general Public, the party most deeply interested in the speedy settlement of the great question of Medical Reform, the leaders of the various movements in furtherance of that object have, I think, thrown away a most powerful auxiliary, if not the most essential element of success.

As a result of this state of things we have a tacit encouragement of the worst forms of quackery. Medical titles are openly assumed by impostors who deceive the public; and the Government receives a share in their profits by stamps on Patent Medicines. Money is thus obtained daily from an easily deceived public under "false pretences," which so long as they assume a *quasi* medical character do not involve the swindlers in any legal responsibility.

"Moreover, the Government, by neglecting to exercise an efficient supervision of the constitution of the Medical Profession, and thus allowing ignorant impostors to be confounded by the Public with men properly educated and legally qualified to practise Medicine, not only assists in injuring and degrading the latter, but also jeopardizes, to a much greater extent than would at first sight appear, the civil rights and property of individual members of the general community. Thus, under the existing law, on the production of the certificates of two legally qualfied Medical Practitioners, and at the request of a relative or friend, any person may be arrested as insane, and confined in a lunatic asylum. But will it be credited, that beyond the mere declaration of the Medical Practitioner signing the certificate, the law requires no further proof of his Professional or moral fitness for discharging so important a duty?* He may falsely and fraudulently have assumed a medical title which he never legally possessed; he may have obtained possession of the diploma of a deceased Practitioner, and represented it as a proof of his own qualification; or, in the event of his possessing a proper diploma, he may be a man of utterly debased moral feeling, an outcast from the society of his Professional brethren; or again, a man intellectually unfitted for the determination of the mental state of an alleged lunatic. But at present what security is there for the Public against these possible sources of injustice and fraud? The same evils, it is also evident, may, and undoubtedly do, in some measure invalidate the Medical opinions by which the vast operations of Life Insurance Companies are chiefly guided. For in the existing state of the profession they can have no perfect guarantee of the medical or moral qualifications of the Practitioners, to whom they are compelled to refer for information as to the past and present state of health and general eligibility of a person whose life may be proposed for insurance. And a similar feeling of insecurity must, from the same canse, be experienced in all business transactions which require or rest upon Medical certificates. The remedy for this evil will hereafter be briefly noticed."

It cannot be doubted that the general interests of the Profession are those of the public individually and collectively, and Dr. Robinson has shown great tact and judgment in placing the fact in a more prominent position than it has had in the numerous pamphlets on Medical Reform which have hitherto been published. All must agree with him in the three propositions:—1. That the Public has a right to expect that every man, assuming a title implying, on the part of the holder, the possession of the special knowledge required for the successful treatment of disease, is in reality the skilful and instructed person he represents himself to be. 2. That men bearing the same professional titles and practising in the same country shall have pursued the same course of studies, and have been subjected to the same examinations. 3. That medical men who have disgraced themselves or their calling by criminal or dishonourable conduct, shall no longer be allowed to remain in the profession.

The present system is the reverse of all this; and until a remedy be applied for the removal of these real grievances, both the public and the profession must suffer. We shall reserve for another occasion a consideration of the remedial measures proposed by the writer of this letter.

LIABILITIES OF PATIENTS—RIGHT OF ACTION FOR MEDICINE AND ATTENDANCE.

THE following case came before the Court of Queen's Bench last week:—

Elliott v. *Clayton.*

The question in this case was, whether an uncertificated insolvent, being a general medical practitioner, could maintain an action for his attendance on, and medicines supplied to a patient.

Mr. Justice PATTESON delivered the judgment of the Court, to the effect that the plaintiff was in substance carrying on his business as before his insolvency. He was in possession of the original stock of medicines, and was supplied with fresh medicines from time to time upon fresh credit. His case could not, therefore, be distinguished from a previous case which had been decided. The rule to enter the verdict for the defendant must, therefore, be made absolute.

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Reviews.

Lectures on Clinical Medicine. By John Hughes Bennett, M.D., F.R.S.E., &c, &c. Part III. 8vo. pp. 93—135. Edinburgh: Sutherland. London: Simpkin and Co.; and Highley. 1850.

The subjects of the preceding parts of Dr. Bennett's Clinical Lectures have been already brought before our readers.* The contents of the part now to be considered are:—1. The examination of the patient; 2. Percussion; 3. Auscultation; 4. The Diagnosis of Cardiac Disease.

On the first topic the author gives very lengthy instructions on the method of taking cases, following the plan adopted by Professor Rostan of Paris. The symptoms and circumstances demanding attention are arranged under seven heads—*e. g.*, Circulatory System; Respiratory System; Nervous System; Digestive System; Genito-urinary System; Integumentary System; Antecedent History. The manner of prosecuting the inquiries through these seven divisions is next explained by Dr. Bennett: the method of conducting a post-mortem examination is also stated. Each point is dwelt upon, certainly fully, perhaps a little more so than will be found practicable where it is necessary to see many patients.

The second topic—that of percussion—receives, in our opinion, a larger share of attention, and occupies a greater space, than, from its secondary importance, it really merits. The author recommends the use of Piorry's pleximeter, and the hammer of Dr. Winterich. The different sounds produced by the use of these instruments are described with considerable minuteness, and, to our apprehension, with unnecessary refinement. The nine elementary sounds of M. Piorry are, however, reduced to three primary kinds, dependent on tones produced respectively;—by organs containing air, by those containing fluid, and by those formed of a uniform dense parenchymatous tissue throughout: these sounds Dr. Bennett denominates the *tympanitic*, the *humoral*, and the *parenchymatous*. Whether, however, the most skilled ear can detect differences between the two latter, is to u a matter of doubt, and is proved to be s by the often erring results of diagnosis in the cases of tumors, morbid growths and effusions within the cavities. Dr. Bennett gives ample instructions on the application of percussion to each organ and special region of the body.

On the third subject—Auscultation—Dr. Bennett's observations are peculiarly valuable and practical: they present this extensive subject in a condensed and lucid form, avoiding over refinement. We most strongly press the perusal of this section upon clinical students. The attentive examination of this, with the fourth section—On the Diagnosis of Cardiac Disease—will materially aid their studies, invest them with additional interest, and give confidence in their further prosecution.

Whether all the modern aids to diagnosis be indispensable or otherwise, may fairly be admitted to be open to doubt. It is not yet incontrovertibly established that the general practitioner must carry about with him a stethoscope, a pleximeter, a hammer, a spirometer, a chest-measurer, a spatula, a speculum uteri, an urinometer, a case of pocket instruments, a case of urinary tests, *cum multis aliis*. To be furnished with these mechanical aids in obscure or difficult cases is truly desirable; but a correct diagnosis will, in many cases, be as readily arrived at without them as with them by any practical man; and the student should endeavour to learn this lesson in the wards of the hospital where the patient is brought to him, or he will find, when he is taken to the patient, that he has learnt to little purpose. In the practice of after-life he will not always be able to avail himself of these ingenious inventions. It is well, therefore, that he should not trust too much to them, even in his days of learning, when he bears no responsibility.

We offer these suggestions without intending to disparage the instructions given by Dr. Bennett.

On the Cure of Popliteal Aneurism by Pressure at the Groin. By J. M O'Ferrall, M.D., M.R.I.A., &c. Pamphlet, 8vo. pp. 19. Dublin 1850.

This paper contains clinical researches which, in the author's opinion, appear to show—1st. The superiority of *pres-*

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* Page 1085 of last volume.

sure at the groin, for the cure of popliteal aneurism, in comparison with that applied in other situations; 2d. That different, and even opposite methods of constitutional treatment, are required in different cases; and 3d. That certain auxiliary means may promote, in a material degree, the successful issue of the case.

The cases upon which these conclusions are founded, and the apparatus employed in their treatment, will be found fully detailed in this pamphlet, to which we refer our readers. The original essay was published in our valuable contemporary, the Dublin Quarterly Journal of Medical Science, for November 1846.

On the Therapeutic Application of Electro-magnetism in the Treatment of Rheumatic and Paralytic Affections. By ROBERT FRORIEP, Professor of Surgery in the University of Berlin, &c., &c., &c. Translated from the German by RICHARD MOORE LAWRANCE, M.D., Surgeon Extraordinary to H. R. H. the Duke of Saxe Coburg and Gotha. 8vo. pp. 205. London: Renshaw. 1850.

THE author in the first place describes those forms of disease which he classes as Rheumatic affections, as contradistinguished from neuralgia and paralysis. The great distinguishing feature he considers to be the *effusions* which take place in rheumatism. According to his observations, these effusions bear an exact proportion to the severity of the complaint, the symptoms growing better or worse as the effusions increase or decrease.

The effusions proceed, in the author's opinion, from relaxation of the capillaries under diminished nervous energy, and they are to be removed by such means as "stimulate the nerves of the part affected. These means act directly and indirectly. Those which act directly are mechanical stimulants,—as shampooing, rubbing, passive and active motion and electricity; those which have an indirect influence are stimulating applications, the effect of which is explained by the reflex functions, though we must admit that some advantage is derived from the local application" (p. 23).

The most efficacious agent for the removal of the effusions here referred to by the author has been electro-magnetism, either through the medium of sponges, or by acupuncturation with platina needles.

In support of his advocacy of electro-magnetism in these affections, Dr. Froriep relates fourteen cases of rheumatic effusion, and neuralgic and paralytic affections. From these it would seem to have been extremely beneficial, and indeed far superior to every other remedial measure.

Dr. Lawrance has witnessed many of these cases under Dr. Froriep's care, and has translated the work with the desire of bringing electro-magnetism into more general favour in the treatment of rheumatism; an object which we think will be gained by the publication of this essay.

Observations relative to the State of the Skull and of the Brain in Congenital Hydrocephalus, and to Idiocy and Paralysis attending it; with Cases. By FRANCIS BATTERSBY, M.B., T.C.D., &c., &c. Pamphlet. 8vo. pp. 30. Edinburgh. 1850.

WITH regard to the state of the skull in congenital hydrocephalus, the author first quotes instances from various writers, who relate cases in which the head was of its natural size, or even smaller; the latter constituting a form of disease to which Cruveilhier has given the name of *Microcephalus*, and of which he distinguishes three varieties. Dr. Battersby relates a case of hydrocephalus, in which the head remained of the natural size.

In hydrocephalus with increased volume of the head, the author describes the bones as being expanded, thinned, and retained in relation to each other only by a firm membrane, which fills up the intervening space. At the same time he refers to cases in which the bones have been found thickened.

Dr. Battersby concurs in the views of Dr. Craigie, that no separation of sutures takes place, the process of ossification having been interrupted. Osseous points are subsequently developed between the pericranium and dura mater, constituting true *ossa Wormiana*.

The condition of the brain in congenital hydrocephalus is, according to Dr. Battersby, that of defective or arrested development; this condition being always congenital, and seeming to depend upon an increase of the natural serosity of the spinal cord and ventricles of the brain. Dr. Battersby cites, from various authors, several cases in which the fluid existed on the outside of the dura mater.

The author concludes his observations by showing that there is no remedy for this state of the brain, already so much disorganized. The evacuation of the water would not destroy the causes which produced it, and which would certainly re-produce it.

This pamphlet, like other productions which we have had occasion to notice from the pen of Dr. Battersby, forms a very important and valuable contribution to infantile pathology.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

February 4, 1851.

PRESIDENT—DR. LATHAM.

MR. OBRE exhibited some wax models of

Gangrene of the Extremities of an Infant

A healthy female child, aged seven months, early in last November was attacked with inflammation in one of the cervical glands on the left side, which increased until the 27th of the month, having attained the size of a large chesnut, and being soft to the touch, as if about to break. The next day it was observed decreased in size. At eight o'clock that evening an erysipelatous blush appeared on the centre of both tibial regions. When Mr. Obre first saw the child, the gland in the neck was slightly enlarged, and, being opened, contained about half a drachm of pus. The erysipelatous inflammation was the size of a half-crown piece, with a dark dusky hue. The child was pale and debilitated. The limbs were surrounded with cotton wool, and wine administered in small quantities. At twelve o'clock the red appearance was superseded by a general dark aspect, which extended over the dorsum of both feet, having the character of gangrene of the integument. In the course of the night it extended on the anterior of both legs from the toes to the knee, and vesicles formed on the left. Both arms, from the wrist to the deltoid region, showed the same fate as the lower extremities, becoming dark and gangrenous; and a circumscribed spot of the same characte appeared on the forehead. The child died in the course of this day, the 28th. Th parts of the extremities and body which had not assumed a morbid appearance were white and cold some hours before death, as if ready to pass into the same condition.

Examination.—No deposit of pus or internal disease was detected. The cavities of the heart contained no fibrous deposit; the right side containing only a little fluid blood. All the arteries and veins in the body were opened, but found free from any clot of fibrine. Blood not examined by microscope.

MR. POLLOCK exhibited a specimen of

Disease of the Eye,

which he had examined for Dr. Quain, t whom the Society was indebted for th case and its history. In consequence of a opacity of the cornea being observed during the post-mortem examination of a man æt. 36, who died in the Brompton Hospita from hæmorrhage from a thoracic aneurism, the eye was removed for examinatio It was ascertained that, sixteen years previous to death, he received a severe blo on the right eye, which was followed b inflammation, opacity of the cornea, an total loss of vision. The globe was flacci and contained a small quantity of pinkis fluid. The diameter of the cornea wa much diminished, its surface flattened, an its structure opaque and thin. The sclerotic was also thin. The choroid wa much less dark than usual, and less vascular than in health. Vessels were seen i its structure mixed with pigment cells. I its structure, but chiefly on its inner surface, were numerous spots and little masse of calcareous matter, consisting chiefly o carbonate of lime. In one or two place they were prominent on the inner surface From the entrance of the optic nerve t the posterior surface of the lens, there wa stretched the remains of the retina, now a delicate, folded, but opaque membran The retina, therefore, was not in contac with the inner surface of the choroid, bu in this collapsed condition, placed in th axis of the globe. Portions of it, examine microscopically, gave evidence of its fibrou lamina, but no other trace of the natura structure of the retina. The lens was flattened, opaque, and much diminished i size. Its anterior surface was in close contact, and intimately adherent with the posterior surface of the cornea; and betwee them there was no trace of any portion o the iris. The posterior surface of the len was adherent to an opaque membrane which beyond its circumference adhered t the wall of the eye. To the posterior surface of this membrane was attached the anterior extremity of the collapsed retina. The lens consisted of its natural structure. It may be supposed from the history of the case that some laceration of the cornea was produced by the blow, which, allowing the escape of the aqueous humour, enabled the lens to come in contact with the cornea, and, at a subsequent period, adhesion of the adjacent structures taking place, explained the manner in which the iris had become degenerated and absorbed. The condition of the retina might be accounted for by effusion of fluid taking place between the choroid and retina; and while this produced the collapsed condition of the nervous layer, it must have occasioned absorption of the vitreous mass.

Mr. CANTON exhibited an eye which had been removed from an old man after death, and in which, twenty-five years previously, the operation of depression of cataract had been performed. The patient suffered from a severe attack of inflammation of the organ, and sight was not regained. The lens was found much diminished in size, but still presented under the microscope its characteristic structure. It was slightly adherent to the capsule, close to the outer edge of which it was placed. The capsule itself was shrivelled, presented slight calcareous specks, and its anterior and posterior portions were adherent together. From the point of entrance of the optic nerve to the back of the lenticular capsule a broad whitish band passed, exactly similar to that seen in the preparation examined by Mr. Pollock. The vitreous humour was perfectly fluid. The pigment was here and there absorbed, and the choroid had specks and small patches of calcareous matter in its substance.

Dr. HARE exhibited a

Heart from a Child, three years old, which presented during life a loud regurgitant tricuspid murmur.

The child was taken ill on the 4th of Oct. and on the following day there were found signs of inflammation at the base of each lung, and a distinct murmur over the cardiac region, and in the interscapular spaces. Two or three days subsequently his feet were observed to be swollen, and the general symptoms were aggravated; a strong pulsation existed on each side of the neck, which had not been previously observed. When seen on the 15th, the child was weak and languid, very pale, and the lips slightly purple; face a little swollen as well as the legs; the marks of the stethoscope remained on the chest; respirations were short, 40; no thoracic pain; occasional short hard dry cough; percussion rather duller in the left than in the right infra-clavicular region; in both regions respiration harsh, and on coughing some crepitation. Some difference on percussion in the infra-scapular regions, and in the left one respiration bronchial. Over the rest of the left lung, on deep inspiration, some crepitation not heard in ordinary inspiration; crepitation not heard in right lung. There was no bulging of the cardiac region; the heart beat strongly between the ensiform and left costal cartilages, though also felt between this and the left nipple; heart's dulness extended from the ensiform cartilage to rather above the middle of the sternum, and from a little of the right of the left border of the sternum nearly to left nipple; at a point half an inch below and to left of left nipple, both heart's sounds were audible; the first barely so, being accompanied with, and almost marked by, a roughish murmur, which was heard somewhat (though less distinctly) at base of heart, but not at top of sternum, or in carotids; at same point (below and to left of nipple) the second sound was loud and ringing, but not accompanied by any murmur; the murmur was loudest at the angle between the ensiform and left costal cartilages; here it was a loud rough sound, entirely superseding the first natural sound, and of longer duration than a natural first sound; in the middle of it was superadded a more acute sound, of about a third of the duration of the rough murmur, and like the sharp switch of a whip, or a short sharp mew; the murmur was distinctly audible in the left interscapular region, especially at its lower part, and rather less distinctly in right interscapular region. There was exceedingly strong pulsation of the external jugulars both in the recumbent and sitting posture; each was distended to more than the diameter of the child's thumb, the right one rather more than the left: synchronously with each systole of the heart, they evidently filled from below, and became more distended and tortuous, the enlargement extending upward two-thirds the distance between the clavicle and angle of the jaw; the pulse was 144, very weak, but regular in rhythm. The child died on the 16th Oct.

Examination.—There was a very slight anasarca of the legs, and puffiness of face; the right pleura contained about two drachms, and the left from six to eight drachms of straw-coloured fluid. The greater portion of the left lung was of a dusky purplish colour; the dark-coloured parts crepitated but little: portions from the middle of the lung barely floated: those from the posterior part at once sunk in water; the right lung was less dark coloured and less consolidated; the pericardium was remarkably uncovered by the lungs. Seen in *situ*, the heart appeared considerably larger than natural; the pericardium contained about a drachm of straw-coloured serum; the heart was so distended as to present an almost globular appearance, the walls being tense and resisting as much on the right as left side: the cardiac veins were completely distended; from the base of ventricles to the apex it measured 2½ inches; transversely across base of ventricles 2¼ inches. The left ventricle contained some dark-coloured clots; the thickness of its walls at base ⅜th of an inch, middle ¼, apex ⅛; the middle of the base of septum was very thin, one of the aortic valves was slightly reticulated near its free border; circumference of aortic orifice 1¾ inch; circumference of aorta at ¾ inch from orifice (just before giving off great vessels) 1⅜; ditto, immediately beyond origin of great vessels, 1 inch, and at an inch beyond this point the same; mitral valve healthy, circumference of orifice 2 inches; right ventricle filled and distended with a dark mass of blood which extended through the auricular ventricular opening, and filled the auricle; pulmonary valves healthy, the orifice 1½ inch in circumference; pulmonary artery, at ½ inch from orifice, also 1½ inch in circumference; tricuspid valve healthy; auriculo-ventricular opening, circumference 2½ inches; foramen ovale and ductus arteriosus closed; weight of heart, after removal of blood, 2½ oz. The cause of the morbid sound heard during life was a point of especial interest, for no malformation nor alteration of the valves or openings could be found. Dr. Hare was led to attribute it to regurgitation through the tricuspid orifice caused by excessive distension of the right side of the heart; the anterior and right curtains of the tricuspid valves attached to the yielding wall of the right ventricle being from this cause so far drawn aside as to prevent the complete closure of the right auriculo-ventricular orifice at each systole of the heart. This view is supported by the situation at which the murmur was most distinctly audible, by the extraordinary fulness of the jugulars at each systole of the heart, and by the great distension of the right side of the heart found after death: a very fluid condition of the blood would probably, under these circumstances, facilitate the production of a murmur.

That cardiac murmurs may occur in children from causes not altogther permanent, is proved by the case of a child, æt. 5⅝ months, in which, on Sept 7th, there was "a distinct moderately loud murmur accompanying the first sounds of the heart over the whole of the cardiac region, but rather louder at the left border of the sternum (about the junction of the middle and lower third) than elsewhere," while on the 10th, three days after, "the murmur was considerably less distinct than before, the first sound rather presenting a ringing character than being accompanied by a murmur."

Mr. **Ward** exhibited for Mr. Curling a specimen of

Extensive Disease of the Acetabulum and Head of Femur,

from a boy, æt. 4, who, after a fall in Sept. 1849, attended as an out-patient at the London Hospital, for some two months, during which time symptoms of disease of the hip became manifest. He was then taken into the Hospital until February, and became after that an out-patient till May 1850, when he was re-admitted. An abscess had formed in the joint, and burst over the trochanter, and the thigh had gradually become contracted on the pelvis, and the child's health much reduced. A large sore over the trochanter communicated with a deep sinus, from which a copious discharge was secreted; a large abscess subsequently formed in the thigh, and burst below its middle, on the inner side. This continued to discharge freely; the suppuration from the hip diminishing. The propriety of arresting the progress the disease, and giving the child a better chance of life by excision of the head of the thigh-bone, was well considered, but as the bone was not dislocated, and as it was impossible to ascertain the condition of the head and neck of the femur and of the acetabulum, Mr. Curling deemed the operation inadvisable. The child gradually sank and died Jan. 16th, 1851.

On examination, the head of the femur was found quite destroyed and the neck carious as far as the shaft; the pelvis was extensively diseased; the acetabulum was carious throughout and pervious in the centre, and a piece of loose bone lodged within it; the caries extended along the ilium nearly as far as the sacrum; there were several sinuses extending around the hip and down the thigh.

EPIDEMIOLOGICAL SOCIETY.

Feb. 3, 1851.

THE PRESIDENT IN THE CHAIR.

The Origin and Progress of Cholera and Small-pox in Guernsey.

By S. Elliott Hoskins, M.D., F.R.S.

The ravages of cholera in 1832 and 18 as well as those of small-pox, and other epidemics, at various periods, in the Island of Guernsey, are so strictly referable to impure localities, that a few observations on these subjects may not prove unacceptable to a Society which undertakes the important and difficult task of enquiring into the connection existing between the offspring of pestilence and its birth-place.

I may, perhaps, be excused for premising a deficiency of the constituent symptoms of cholera, adopted by the practitioners of this town. This definition is the more necessary, as, during the prevalence of the epidemic of 1849, erroneous reports were frequently given in, and because timid and fanciful persons were apt to be needlessly alarmed by the presence of one or two insufficient symptoms; unqualified and ignorant individuals, being ever ready to confirm their fears, pronouncing each solitary symptom cholera, in order to obtain the credit of curing so formidable a disease.

The symptoms considered pathognomonic were :—1st, vomiting; 2nd, purging; 3rd, cramp; 4th, suppression of urine, with or without diaphoresis.

The presence of *three* at least of these symptoms was deemed essential to the stage of collapse, which stage of collapse is genuine cholera. These symptoms, interchangeably combined, present various phases of disease tending to the same end: thus

Vomiting .	1	1	1	1	0	Cholera.
Purging .	2	2	2	0	2	
Cramps . .	3	3	0	3	3	
Suppression	4	0	4	4	4	

In the month of July 1832, soon after the appearance of cholera as a European disease, a case, then considered questionable, accompanied by vomiting, purging, and suppression of urine, ending in collapse and death, occurred in a central part of the town of Saint Peter Port. The history of the case was obscure; no satisfactory account could be obtained of its origin, and, as it was not immediately succeeded by any similar disease, the apprehension of its recurrence in an epidemic form, began, after a week or two, to subside.

During the ensuing month of October, however, a few persons were attacked with unequivocal symptoms of cholera, and all of them died, in a north-eastern suburb of the town called the Boüet.

Within a day or two, an avalanche of cases overwhelmed a circumscribed spot, near the harbour, formed by the junction of Cornet Street, Fountain Street, and High Street, rather less than a mile to the southward of the Boüet*. The disease remained concentrated in this spot for three days, without spreading in the town, or into the country. Before the expiration of a week it had totally disappeared, after carrying off somewhat less than one hundred victims from the town population, amounting to about 14,000.

The short duration of this epidemic is, humanly speaking, ascribable to the early adoption of well-concerted measures; for instance, the isolation of cases, as they occurred, in a well-regulated cholera hospital*, and the vigour with which sanitary regulations were carried out in infected districts. The chief source of malaria, however, an intermitting mill-stream in the vicinity, remained neglected, but not overlooked, for the medical staff of the town, long aware of the fact that diseases were not engendered but aggravated throughout its course, petitioned the Royal Court for the removal or abatement of the nuisance. Their petition was disregarded,—the source of evil *still* exists: the propriety of the appeal, however, will appear in the sequel.

The above account of the epidemic of 1832 is unavoidably defective, owing to the impossibility of collecting authentic details, in the absence of recorded data, after a lapse of eighteen years. No allusion to it would have been made, but for its connection, in point of locality, with the subsequent outbreak of cholera.

In the first week of June 1849, a small trading vessel, arriving from Rotterdam, where cholera prevailed in an aggravated form, brought over the remains of its skipper, who had died of the epidemic during his sojourn in Holland. The metal coffin, containing the corpse, burst during the voyage, owing to the distension of imprisoned gases. It was landed in the outskirts of the town, and, preparations having previously been made, it was conveyed at once to the place of interment. The procession, notwithstanding the anxiety occasioned by the cause of death, was numerous, and a circuitous route was pursued to the place of burial, through thickly populated districts.

The wearing apparel and bed linen of the deceased were conveyed to a house occupied by ten or twelve persons; the whole was washed and dried on the premises, without the observance of any precautionary measures, to the infinite consternation of the neighbourhood. One of the females engaged in superintending the process was soon afterwards taken seriously ill; she recovered, but it is impossible to ascertain, with sufficient accuracy, whether her disorder was cholera or not.

The crew of the cutter, all apparently

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* I give the names of streets and districts for the convenience of reference, as the same places were the first to be re-assailed in 1849.

* This building was, in 1839, the place in which the first case occurred in this town.

healthy when they came on shore, were allowed to proceed uninterrupted, with bags of undepurated clothes, to their homes in various parts of the town and country.

On the 10th of the same month, one of these sailors, after supping on mackarel, cucumbers, and cider, was seized with cholera, in a cottage full of inmates, about four miles from town; he died in a few hours, but no person in the neighbourhood was attacked. This was the first authentic case of cholera which appeared in the Island; it created considerable sensation, especially in the country parishes, and several cases of severe diarrhœa were reported as cholera during the ensuing week, in the vicinity of Saint Sampson's Harbour, four or five miles from the place where the men had died. In consequence of these rumours, the officers of Her Majesty's Customs deemed it their duty to refuse "clean bills of health" to vessels preparing to leave the harbour above mentioned. The interruption to commerce, arising from this refusal, moved the Royal Courts, on the 21st of June, to direct Mr. Magrath and myself to investigate one of the suspicious cases on the spot. The result of the investigation was an official report to the Lieutenant-Governor, and the Royal Court, stating, that the case examined presented none of the real features of cholera, and that no evidence had been obtained as to the existence of the disease, either as an endemic or epidemic, in that part of the Island. The opinion then given is not invalidated by the appearance of the disease in that locality some weeks afterwards.

No fresh case was manifested from the 10th of June to the beginning of August. But, about the latter period, frequent and sudden mortality, accompanied by unequivocal choleraic symptoms, occurred in the Town Hospital,—an establishment combining the purposes of receiving hospital, poor house, house of correction, and refuge for destitute children; and thence containing persons of all ages, habits, and constitutions. The daily recurrence of cases, and the preponderance of deaths over recoveries, rendered it necessary to remove the inmates. The men and boys were transferred to Vale Castle, the north-eastern point of the Island; the adult females to Jerbourg barracks, the north-eastern extremity; and the female children, to a building relatively inland. After this removal, one case alone occurred among them all.

Cases now began to appear in different parts of the town, and towards the end of the month the disease broke out with great violence in the quarters it had visited in 1832, close to the town church, the harbour, and the market-place. It pursued a rapid and fatal course for about three quarters of a mile along the banks of the before mentioned mill stream, diverging on either side to claim solitary victims, here and there, in almost every part of the town and its extensive environs.

The disease re-established itself at the same time in the former site, the Boüet, from whence, proceeding southward, it extended rapidly along the sea shore, as if to open a communication with the right wing of attack, in the vicinity of the harbour. An outbreak took place, simultaneously, in a spot on the extreme left of the position, bordering Saint Sampson's Harbour. Here the mortality exceeded that of the worst part of Lambeth.

No effectual public measures were adopted to arrest the fearful progress of the disease until the 2nd of September, when a meeting of the influential members of the community took place; a central sanitary committee was appointed; domiciliary visits were undertaken by philanthropic individuals; a fund, ultimately amounting to £758, was subscribed; food, clothing, and medicine, to check premonitory diarrhœa, were liberally but judiciously distributed. Within a few days, an appreciable improvement had taken place in the public health: the number of cases diminished from week to week, and before the commencement of October cholera had disappeared. Among the measures which contributed to the providential result, the cleansing and fumigating of infected dwellings, together with the purification, as far as possible, of the obnoxious mill stream, must not be forgotten.

Having briefly, but I believe accurately, described the origin and progress of cholera, I shall proceed to give such information as I have been enabled to collect respecting the topography of the districts in which it was most active.

In the first place, the hospital, which, from its being superficially very clean and neat, and hitherto not unhealthy, was found, on examination, to be defective in its sewerage, owing to the addition of new buildings, and an increase of inmates, without corresponding attention having been paid to the construction of new drains or the improvement of old ones. In one part, a cesspool was found, which discharged its surplus into a tank of spring water used for culinary processes. Another cesspool, with an obliterated drain, was detected, the very existence of which was unsuspected. An untrapped gully-hole opened in the immediate vicinity of the place occupied by the first person who fell a victim to the disease. These, and other circumstances, furnished abundant evidence as to the *exciting* cause of the evil, and fully accounted for the large proportion of mortality which took place. The construction of efficient sewers, a better system of ventilation, and a more abundant supply of water, ably and zealously carried into effect under the direction of Dr. Lisle, President of the Hospital Committee, has restored to this establishment its former character for salubrity.

In one of the suburbs, called the *Charrotterie*, about three-quarters of a mile in a westerly direction from the harbour, a pond, occupying an area equal to one-sixth of an English acre, is formed by numerous streamlets from the interior of the Island. This pond, when comparatively full of water, is innocuous, but, in consequence of its supplying several water mills, situated between it and the sea shore, this seldom happens. It moreover accumulates the drainage of surrounding houses and manufactories, and, during the summer, exists generally as a loose bog, luxuriant in *confervæ*, and redolent of every species of refuse; yielding a permanent supply of noxious gases, the products of every kind of animal putrefaction and vegetable fermentation.

From this pestiferous reservoir proceeds the mill stream, occasionally flushed with water, but more frequently basking in the sun as a sluggish ditch, expanding at intervals into stagnant puddles. After pursuing its course between and *beneath* a long line of buildings, to which it serves the purpose of a common open sewer, its foul contents are emitted into the harbour, where they intermingle with the products of public and household drains, and with bilge water pumped out of the holds of colliers' and other trading vessels. The tide recedes entirely from this fermenting basin, for twelve out of every twenty-four hours, so that abundant time is allowed for the concoction of deleterious gaseous compounds, and in the very centre of the commerce of the Island. The surrounding houses, although scarcely habitable, in consequence of its effluvia, are, nevertheless, from necessity, densely occupied.

The next district to be mentioned, in which pestilence delights to revel, is the *Boüet*. This district enjoys, it is true, no grand emporium of putrefactive fermentation like the harbour and the Charotterie, but what it wants in extent it makes up in detail; an ample supply of the choicest elements of disease being constantly prepared by porous cesspools, foul pig-styes, damaged gratings, and dilapitated drains, the liquid oozings of which, after permeating with difficulty their more solid contents, form deltas in the adjacent beach, at a tantalizing distance from the half tide limit. The spring tide, at certain periods, performs the kindly office of a general scavenger, but, during the intervals, decomposition is working its combinations.

A couple of miles northward, along the sea coast, is situated the harbour of Saint Sampson's, in the vicinity of which some houses, hastily run up by a needy speculator, afforded an active focus for cholera, while the disease was raging in town. These houses, eleven in number, possessed the due proportion of doors and windows in front, but the back wall was a blank, without the slightest artificial chink for ventilation. Each of them consisted of two small rooms, the whole containing upwards of one hundred English quarrymen, lightermen, and other labourers, with their families.

The dwellings themselves form two sides of a trapezium; the third consists of a wall several feet high, and the fourth is bounded by the quay. The enclosure so constituted was, at this time, sunk several feet below the level of the latter, but somewhat above high water mark, so that its drainage reverted upon itself. Within this yard existed, besides uncounted heaps of solid filth, an open pond called a cesspool, the receptacle of all that is abominable from all the houses. This pool, being formed in a loose soil, permitted all its more attenuated contents to percolate freely into a neighbouring well, from which the inmates of the dwellings derived all the water employed for domestic and culinary purposes. The gaseous emanations from these foul sources kept the atmosphere of the enclosure in a constant state of saturation. When the wind blew in certain directions, the noxious vapours were driven into the houses, and being unable to escape, from the absence of counter openings, they lodged undisturbed among the other inmates. When a contrary wind prevailed, they were driven against the wall of the quay, not to be carried off, but to recoil into the yard.

Had the demon of pestilence in person superintended the arrangements, he could not have contrived more effectual means for the propagation of disease. Disease was generated, and the mortality was great. In this parish it exceeded that of the most crowded and filthy neighbourhoods of London, by upwards of thirty-three per cent.; this is probably ascribable, in some measure, to the spirituous propensities of the victims, and the ready means of indulgence afforded by the extremely low price of their potations.

The occurrence of any epidemic in localities such as I have described is sufficiently accounted for. Circumstances, however, arose during the career of cholera in this Island, which, as they involve the question of contagion, deserve to be mentioned.

Whilst the cholera was at its culminating point in town, two cases unexpectedly broke out in an isolated cottage, in Saint Pierre du Bois, one of the south-westerly parishes, about five miles from the Charroterie pond, in the immediate neighbourhood of which the persons affected had been employed as masons. Their cottage in the country was clean, well ventilated, and not ill drained; nevertheless, one of the attendants who had been assiduous in rubbing the patients, and two other persons in the same house, were seized with cholera; it did not, however, spread further. It must also be stated that several of the *rubbers* and nurses in constant attendance at the cholera hospital were similarly affected.

It would be irrelevant to detail the various modes of treatment resorted to in the advanced states of cholera, before a Society not exclusively professional, but it may not be unprofitable to allude cursorily to the beneficial effects of arresting premonitory diarrhœa, wherever its existence could be ascertained. This principle of preventive treatment, arising out of experience obtained during the former epidemics, was early resorted to in that of 1849, from the conviction that the mildest, the most painless diarrhœa, readily induces the stage of collapse during choleraic periods.

After the cessation of cholera, the small-pox, which preceded and accompanied it in every stage of its progress, still continued to infest the town, and ultimately spread over the country parishes. A brief notice of this collateral epidemic may not therefore be deemed superfluous.

On the introduction of vaccination into Guernsey, about the commencement of the present century, small-pox, as far as I can learn or recollect, was unknown until the year 1825, when a case or two, landing from a troop ship, infected the population of the island.

Vaccination had, from its first introduction, been generally adopted: but, whether from the employment of inactive virus, a more frequent cause of failure formerly than in the present day, a great number of persons, almost entirely among the lower classes, supposed to be protected, were assailed by the disease. Although the majority of such cases occurred in a modified form, the recurrence of small-pox, however mitigated, tended materially to shake popular faith in the protective influence of vaccination. Nevertheless, the authorities, and the clergy, united in strenuous efforts to encourage its adoption; and the whole of the medical men volunteered their services gratuitously. Persons of all ages were assembled in the different parish churches; hundreds of the poor were in consequence vaccinated, and in process of time the small-pox disappeared. It recurred at rare and distant intervals, but each recurrence could be traced to importation.

During the early part of 1849, it was introduced into Alderney, by persons seeking employment in the Government works. A little precaution would have prevented its transmission from that island to this. None, however, was adopted, and in the month of March some children, with the disease in full activity, were allowed to land from an Alderney vessel, and take up their abode in the heart of the town. The consequence was the rapid spread of the disease; and, on the arrival of cholera, its virulence appeared to be increased, especially in those districts infested by the latter disorder.

Owing to prejudice, indifference, scepticism, and superstition among the lower orders, vaccination had been for a long time repudiated. The Sanitary Committee, after doing all in their power to induce the poor to have recourse to vaccination, with little success, endeavoured to enforce it, by threatening to withhold relief from those who objected. The town was divided into districts; medical practitioners again tendered their gratuitous services, and a great number of recusants were persuaded to yield. Many still obstinately refused the proffered protection; nevertheless the number of fresh cases gradually diminished, and the disease was ultimately banished from the town. It was not so easy to overcome the prejudice of the country people, amongst whom small-pox proved very fatal, but at length it wore itself out and disappeared.

Dr. Mansell, to whom I am indebted for the statistical summary of small-pox and cholera published in the accompanying report, states, that from March 1849 to the corresponding month of 1850, upwards of two thousand cases of small-pox occurred in the town, the population of which is estimated at fifteen thousand. Three-fourths of the cases occurred among persons who had never been vaccinated; the remaining fourth may fairly be attributed to imperfect protection: on which subject the following judicious remarks are offered:—

"Efficacious as vaccination may be, in preventing or mitigating small-pox, in the hands of those who understand the proper period for taking the virus, and the character of the resulting vesicle, it is to be lamented that the operation should be so often intrusted to incompetent persons, such as nurses and midwives, who, although quite equal to the simple act of inserting virus, are incapable of judging whether the proper degree of protection is attained

Under such circumstances non-vaccination is better than imperfect vaccination; for the latter lulls the patient's friends into false security, and affords a pretext, among prejudiced and ill-informed persons, for depreciating its efficacy as a preventive."

Recorded facts relative to small-pox, facts which derive authenticity from public documents, fixing the advent of the disease with accuracy, prove that its introduction into this Island has hitherto been referable to importation. The task of tracing cholera, scarlatina, and other epidemics to their origin is more difficult.

The case of the sailor from Rotterdam, those occurring at Saint Pierre du Bois, and others in the cholera hospital, favour the opinion of contagion, as much as events in other districts tend to weaken, if not destroy, that inference.

In the first place the disease did not spread from any of the *foci* established in the country districts before mentioned. 2ndly. No case can be referred to the presence of the clothes and bed-linen landed from the cutter. 3rdly. No outbreak followed the transit of the corpse, either along its line of route, or among the attendants on the funeral. 4thly. Several weeks elapsed before any further manifestation of the complaint took place. It then broke out at considerable distances, without any suspicion of inter-communication, in districts favourable to the development of zymotic action.

The question now arises, as to whether the germs of morbific poison, exhaled from the bodies or excretions of choleraic patients, are capable of inducing catalytic action, in otherwise insufficient elements, of such potency as to engender the disease, either in the immediate vicinity, or in more distant and comparatively pure localities, the inhabitants of which are predisposed to its reception.

Before the appearance, during the progress, and for some time after the departure of cholera, a peculiar diathesis, or *constitutio epidemica*, prevailed: the concomitant of the latter, as it had been of the former invasion. This peculiar state of constitution, observable principally among the inhabitants of the town and its vicinity, was characterized by a predisposition to gastric, intestinal, and hepatic derangements, accompanied by a highly sensitive condition of the nervous system, separable from emotional causes. In persons so affected the super-addition of an exciting cause readily induced specific disease.

At its commencement it assumed the form of an endemic, in low squalid parts of the town, along the sea-coast, and the borders of the mill-stream. It may be presumed that malaria saturating the surrounding atmosphere was thence transmitted to more elevated and healthier districts,—independently of prevailing winds, but possibly in obedience to the laws of gaseous diffusion,—exciting zymotic action in places where the existing elements of fermentation would not alone have been sufficient to produce the disease.

I am not prepared to offer any other suggestion as to the *modus operandi* of these exciting causes; the fact remains, that an endemic, generated in comparatively narrow limits, became converted into an epidemic, which seized upon stray victims over a large extent of surface, occupied by apparently well-drained, well-ventilated habitations: bearing, in this particular, a striking analogy to the transmission of cholera from the south to the north side of the Thames.

Dr. James Bird remarks,*—"that cholera of endemic origin, under a community of habits and of atmospheric conditions, can become transmissible from locality to locality, from the sick to the healthy, who breathe the same atmosphere in ill-ventilated apartments." These views, in which I entirely coincide, tend to explain the occurrence of cases popularly attributed to infection, but due rather to propagation. Morbific poison, concentrated in an atmosphere, can scarcely fail to permeate food, clothes, and liquids in contact with it: so that persons exposed to its influence not only inhale the poison with every inspiration, but convey it into the stomach with every morsel they swallow, and every draught they drink; whilst the cutaneous surface imbibes it through every pore.†

Before I conclude this imperfect account of these two epidemics, I cannot avoid expressing regret at being unable to arrive at any certain conclusion as to the origin of cholera in this island; although an insulated spot like this ought to furnish greater facility for observation than an inland district where intercommunication between town and town, village and village, is unrestrained and less obvious.

The advantages furnished by local position are, it is much to be lamented, nullified by the difficulty of obtaining proper statistical information. For although the Registration Act extends to this place, its provisions are so loosely and irregularly carried into effect, that little of that information which casts so strong a light on epidemiology in England can be collected here.

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* London Journal of Medicine, No. iv. p. 319.

† This relates to clothes actually in wear, and does not militate against the fact before mentioned respecting the deceased captain's clothes; they were washed, not worn. The correspondent of the Morning Chronicle, in his late examination into the condition of the tailors of London, states, that new garments are used as coverlids to such persons, which within a few hours are actually worn by unsuspecting purchasers, who may thereby acquire scarlatina, or some other infectious disorder,—whether cholera is included it is impossible to say.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

Feb. 6, 1851.

Abscess of the Brain. Mr. J. H. Taylor.

The patient, John Leigh, æt. 40, a man of colour, was admitted in October last, suffering from rheumatic pains in his limbs. About a month after admission he was seized with epileptic attacks, which continued at intervals varying from a fortnight to a month, and of different degrees of intensity. Blisters, aperients, and tonics, were the remedies used. He complained, after the attacks, of pain in his head, principally about the back part. The attacks latterly were less severe in character, but on Jan. 30th they came on in rapid succession, terminating in coma and death on the 31st.

Post-mortem. — Membranes thick and opaque; vessels congested; effusion in ventricles and under membranes; *two abscesses* on *top* of right hemisphere corresponding to parietal prominence, and causing slight absorption of the bone above them. The patient's intellect was not impaired.

Mr. Banner said, black men were peculiarly subject to abscesses and tetanus, and to phlebitis after operations, and mentioned the details of some cases in which they had died of phlebitis after amputation, where they seemed to have no business to do so; several unsuspected abscesses were discovered in the brains after death.

Dr. Nevins mentioned that frost-bites were not unfrequently followed by phlebitis and death amongst Lascars in the Dreadnought.

Dr. Ramsay thought the influence of climates upon blacks not sufficiently attended to; they require acclimatizing in this country; but he had not observed that the blacks in Brazil had tetanus or phlebitis after operation more frequently than white men in that country.

Dr. Whittle thought we should often find abscesses in the brains of strumous patients. He saw a scrofulous man who fell into a state resembling stupor terminating in coma and death: a small scrofulous abscess was found in the pons varolii. A young man who was suffering from scrofulous abscesses about the elbow died under similar symptoms.

Uterus of a Woman three days after Delivery of Twins. Mr. J. H. Taylor.

The patient, an exceedingly emaciated woman, who had been in extreme destitution for some time, was delivered prematurely of twins, with an interval of some hours between them; had considerable hæmorrhage, and sank on the third day. The uterus was merely shown as an illustration of its condition at that period after delivery. A conversation ensued upon the delay of the birth of the second child, when Dr. Nottingham mentioned a case in which the woman was delivered of the first child on Sunday, and a second the following Tuesday; and the wife of a well-known schoolmaster in the town was alluded to who had twins, there being an interval of a week between them.

(A case was brought before the Society a few weeks since, in which there was an interval of several weeks between the premature birth of the first and that of the second child, apparently at the full period. —J. B. N. *Sec.*)

The death of the patient from exhaustion led to the mention of two cases in which transfusion had been practised by

Mr. Higginson: the first was four months after delivery; the mother persisted in suckling twins till she was perfectly anæmic: pulse gone; mind wandering; utter unconsciousness during the operation. She was clearly dying in the opinion of those surgeons who saw her in consultation, and did not think she would survive the night: transfusion was practised to the extent of twelve ounces. The next day she asked questions, and quickly recovered permanently. The other case was that of a woman pulseless, and dying from excessive hæmorrhage, in spite of stimulants; transfusion was performed, and she recovered. Mr. Banner dwelt upon the difficulty of the operation; he had only seen it practised in three instances—all in the hands of experienced hospital surgeons: one recovered; but two died under the operation,—one palpably, and the other probably, from the entrance of air into the vein. Mr. Higginson showed his apparatus, in the use of which it is morally impossible that air could enter.

Great stress was laid, and deservedly so, during the discussion, upon the importance of giving secale before the delivery, as a preventive in cases where hæmorrhage is feared from having occurred in previous deliveries, or from its commencing at the time.

Patency of the Foramen Ovale in an Adult, without Constitutional Signs. Mr. E[illegible]dows.

The patient, when I was called to see him, was suffering from dyspnœa and a *slight* œdema of the lower extremities and trunk; there was also beating of the heart; nothing unusual in his appearance; married, four children; of spare habit; has had acute rheumatism several times, for which he had been bled and cupped frequently. The cardiac dulness did not seem to exceed the ordinary limits, excepting a little downwards towards the epigastric region; chest resonant throughout, expands but little; respiratory murmurs harsh; no rhonchi; heart's impulse increased, and the sounds loud, with a "whizzing" sound during the systole and diastole. The day but one after this his dyspnœa was increased; signs of effusion into the pericardium were well marked; no pain in cardiac region. The next day he died.

Post-mortem.—Heart, with pericardium and the effused fluid, occupied a considerable portion of the thorax, stretching across it in a slightly diagonal direction; the half of the heart was covered by the anterior borders of right lung, which was emphysematous; pericardium contained ℥xiv.—xvj. yellowish-brown serum, free from flakes; surface of pericardium smooth; heart measured from base to apex 6¼ inches; when free from coagula weighed ʒxxij.; pulmonary artery more than three times the calibre of aorta; right ventricle one-third larger than left; right auricle considerably larger than left; musculi pectinati plentifully developed in the general cavity of the auricle as well as the auricula: into this cavity are the openings of only two vessels. The left auricle has no veins opening into it; the only aperture is that of the foramen ovale. The right side has all its valves thickened, with here and there a knotty point of calcareous matter: one of the carneæ columnæ has become calcified for half its extent, and attached to the tricuspid. The left side has all its valves sound; both the auricle and ventricle have their cavities larger than an ordinary heart, but considerably less than the right. The foramen ovale is oval in outline: the edges, perfectly smooth and rounded, will admit the ends of three fingers. The upper border curves over the lower. The positions of the openings into the right auricle are worthy of a little attention. The upper opening has the situation of the superior cava; the lower one is on the lateral aspect. The tricuspid aperture will admit the ends of four fingers and thumb, and is exactly under the upper opening.

Kidneys.—Both of these were shrunk, firm, and vascular; the apices of all the pyramids, for half their extent outwards, except two in the one kidney, and three in the other, were choked with blood of a dark colour; renal apoplexy; none in the cortical part.

REMARKS.—The interesting question arising from this abnormal condition is,—Was the blood mixed in the right auricle, then transmitted through the left auricle to the ventricle, to be circulated in its impure state; or, if pure blood was circulated, how did it happen?

I fancy that the condition of the patient will at once throw aside the idea that the venous and arterial blood were mixed to any extent; for his intellectual faculties were clear and active; skin the same as other persons; had been fond of drinking, and occasionally fighting. A reference to the position of the openings and the margins of the foramen ovale will also help to explain how pure blood might be circulated.

The upper opening, which I presume to be the one for the venous blood, was on a plane posterior to the lower one, which I presume to be the opening for the arterial blood, and their position with respect to the foramen ovale and the tricuspid valves was such that the current of blood through the upper one (venous?) would pass directly through the tricuspid valves into the right ventricle, while a current through the lower one (arterial?) would pass straight on through the foramen into the left auricle.

As before remarked, the upper opening is on a plane posterior to the lower one, as if to permit a crossing of the currents. A slight mixing of the blood must occur when both auricles were filled to a certain point, but it does not seem necessary that it should occur to any extent.

Ossification of the Coronary Artery, without Angina Pectoris. Mr. EDDOWS.

The other case of cardiac affection was one in which there was ossification of one of the divisions of the coronary arteries. Heart loaded with fat; valves more brittle than usual; otherwise healthy. The subject of this, a man æt. 54, had pleurodynia for nine years: the pain was not altered by a full inspiration; it felt as though "a sword were passing through him;" it recurred at intervals of about half a minute; nothing relieved it. A calcareous deposit was perceptible in the coats of the radial artery; the cardiac dulness did not exceed the usual limits, but at the third rib on the left side the dulness was more intense than a little below that spot; the sounds also were free from murmurs, but very faint at the base. I expected to find calcification of portions of the pericardium, but at the *post-mortem* it was evident that the irregular dulness proceeded from the border of left lung overlying the heart, being here and there studded with an albuminous infiltration.

The chief point of interest is, that the condition of the artery at the wrist during life gave indications of the nature of the mischief, though not of its exact position. The anterior lobe of the right side of brain was extensively softened; no traces of convolutions or grey matter; no clot; no calcification of vessels; had paralysis of left side, which occasionally left him; there was no angina pectoris.

ACADEMY OF MEDICINE, PARIS.

Feb. 11, 1851.

Electro-Physiological and Pathological Researches on the Muscles of the Hands.

Dr. Duchenne stated that he had frequently observed that persons deprived of the use of the extensors of the finger and thumb by lead palsy, nevertheless possess the power of extending their second and third phalanges. M. Duchenne had made experiments to ascertain the cause of this circumstance. The following are among the new facts elicited by his electro-physiological researches:—

1. When contraction is excited in the adductors (the interossei and adductors of the little finger and thumb), adduction of the finger and thumb is not alone produced, but there is also observed extension of the last phalanges of the fingers and thumb, with simultaneous flexion of the first phalanges.

2. The extensors of the fingers effect the extension of the first phalanges, exerting only a feeble action over the last phalanges when the hand is flexed on the arm. When it is extended, the extension of the last phalanges can only be performed with the help of the adductors and abductors.

3. The importance of these muscles is therefore apparent from the movements which they enable persons to perform whose extensors of the arm and hand are paralysed.

Cretinism and Goitre.

The **Secretary** read a letter from Dr. Grange on these subjects, containing the following conclusions of his researches:—

1. Goitre and cretinism are not due to any special meteorological or hygienic conditions, but to the combined effects of many causes which separately perform but a secondary part.

2. Goitre and cretinism are endemic in magnesian districts: a geographical chart of the regions in which the diseases prevail shows them to be intimately related to the mineralogical or chemical nature of the soil.

M. Baillarger submitted the following propositions:—Cretinism and idiocy are essentially characterised by arrest of development of the intellectual powers, in both cases, owing to the same defect of conformation. The differences between the two are accidental. Prohibition of intermarriage may be a preventive measure as to extension, but will not prevent hereditary transmission. This must be attained by hygienic conditions applied to the parents.

On Intestinal Suture.

Professor Bouisson read an essay in which he pointed out the advantage of the insertion of pins in the lips of wounds of the intestines, and by means of which the circular form of the intestine is ensured, and the sutures are readily removed when union has taken place.

ACADEMY OF SCIENCES, PARIS.

Feb. 10, 1851.

On the Fibrin and Albumen of the Blood.

Dr. Corne transmitted a note stating that he had made experiments with reference to the statement of M. Marchal, that the fibrin of the blood is diminished by agitation. Blood was drawn from the arm of a patient under acute albuminuria; it had been received into two vessels; in one had been left at rest, the other had been shaken during ten minutes. The proportion of fibrin in both quantities was 1·8 in 1000 parts. Thus it was seen that the fibrin of the blood was below the normal quantity in both specimens; a fact which supports the opinion of Becquerel and Rodier, that the fibrin is the result of a transformation of the albumen.

The circumstance of the quantity of fibrin being the same in the blood that was shaken and that which remained at rest was regarded by Dr. Corne as explicable by supposing that albumen exists in the blood in three states:—1. as albumen proper; 2. an intermediate or *fibroid* state; 3. as fibrin. The albumen in the fibroid state may be capable of returning to the state of albumen proper when the due proportion of this is diminished. The reduction of fibrin by the reduction of albumen, accounts for the atrophy in Albuminuria.

The Antiseptic Powers of Nicotine.

M. Robin related experiments which showed that nicotine exerts the same power of arresting the action of oxygen on animal matter as he had attributed to other poisonous substances, and which he had stated to be a law, expressed by the proposition that a direct relation exists between the poisonous and the antiseptic properties of substances.

Hospital and Infirmary Reports.

HÔPITAL DE LA CHARITÉ, PARIS.

Case of Solitary Hydatid of the Lung.

Under the care of M. Henri Roger.

The records of cases of solitary hydatids of the lungs are very rare. The following, therefore, possesses some interest above that connected with the pathological anatomy, and of the symptoms presented during life.

Case.—Catherine Romtres, 61 years of age, a sempstress, was admitted into the Hôpital de la Charité on the 29th Nov. 1850. Although of a delicate constitution, she had enjoyed tolerably good health; she lived in cold and damp apartments, but had not suffered from rheumatism or acute thoracic affections. For some time past she had experienced shortness of breath and palpitation on walking or undertaking any fatiguing work. About three years ago she began to be troubled with a cough, with difficult expectoration of sero-mucous expectoration. For the last fifteen days she has suffered an oppression at the chest on rising in bed.

On admission, she presented all the characters of a person in whom hæmatosis was incomplete; the countenance was of a pale blue colour, and the lips violet, as were also the fingers, especially at the roots of the nails. The inferior extremities were slightly œdematous; the thorax was deformed, and prominent in front; respiration short; frequent cough, with viscid tenacious expectoration; percussion yielded great sonorousness at the anterior part of the chest; on the left side, behind, there was absolute dulness over the superior portion of the chest, the lower fourth yielding a clear sound; the same difference was observed on the right side. Auscultation detected loud respiratory murmur below the clavicles; over other parts of the chest the breathing sound was less distinct, and was mixed with loud râles; over the superior three-fourths of the left side, posteriorly, there was complete absence of respiratory murmur; the dulness of the præcordial region has not augmented; the impulse of the heart was felt over a more extended space than usual; the heart's sounds were healthy; the pulse was 90, small and regular; she suffered much from headache, general weakness, loss of appetite, &c.; there was no sickness; the bowels acted regularly. The patient died on the day after admission.

Autopsy 36 hours after death.—The heart was enlarged in size; the lungs were emphysematous, and presented general sanguineous infiltration, being of a dark black colour, and permitting the oozing of a large quantity of black blood when cut into. The left lung was adherent to the side of the chest; on attempting to break down the adhesions, a soft white tumor, of the size of an ostrich's egg, was observed to be situated in the interior of the lung, and was found to consist of a large hydatid, imbedded in a cavity in the interior of the lung. The vesicle was single, white, soft, and friable in its texture, like coagulated white of egg. It was adherent to the membrane in which it was inclosed. Its external surface was somewhat granulated; its internal surface was smooth and lamellated; it inclosed a colourless fluid, in which floated small grains perceptible to the naked eye, and which were found to be echinococci. The cyst in which the vesicle was inclosed consisted of a thin lamina of serous membrane, through which the structure of the lung could be perceived. The substance of the lung was in some parts completely destroyed by the pressure of the tumor. The other organs of the body exhibited nothing remarkable.

Remarks.—In a pathological point of view, the most striking feature of this case is the entire destruction of the lung produced by this growth. In a clinical point of view, the case suggests the question whether it would have been possible to detect this tumor during life. If greater opportunity had been afforded, it is probable that, by exclusion, its existence might have been suspected. The physical signs denoted either effusion, induration of a portion of lung, or tumor. By further observation, and the exclusion of some symptoms peculiar to each of these morbid conditions, the existence of the tumor would have been inferred.

ASTHMA AND CONSUMPTION INFIRMARY.

The annual general meeting of the governors of this charity was held at the London Tavern on Thursday. From the report it appeared that during the past year upwards of 1,200 poor persons, afflicted with various kinds of chest disease, had been admitted as out-patients, and 32 received as in-patients, most of whom have been discharged greatly relieved, if not perfectly cured. The number at present on the books exceeds 500, and increases daily. Since the first establishment of the institution in 1814, upwards of 37,000 in and out door patients have been admitted to its benefit. The expenditure for the year exceeds the income by £126. 6s. 7d.

Correspondence.

KOUSSO AND THE TAPE-WORM.

Sir,—I beg to forward for insertion in your journal the following brief record of another instance in which the new remedy Kousso has been successfully employed:—

Mrs. L——, a married female, aged 49, in the middle class of life, came to me a few weeks back with dyspeptic and hysterical symptoms, which, however, presented nothing very remarkable, and were not attributed to their real cause, until it was discovered that she was in the habit of occasionally passing a few joints of the tænia solium.

After several doses of the oil of turpentine, combined with castor-oil, had been given at short intervals, without success, I advised her trying the kousso. Accordingly she took six drachms of this medicine, in half a pint of warm water, early in the morning, having fasted for the previous fourteen hours, and taken, the preceding night, a large dose of castor oil, which had acted freely. She described the potion as having been excessively disagreeable, on account of its bulk, but complained still more of its action, although she is now loud in its praise. It began to purge violently in the course of an hour, and with the second evacuation expelled a large dead worm, intermixed with mucous and fæcal matter; for eight hours afterwards there were severe griping pains, and six other copious motions, consisting of nothing else than the kousso, mixed with serum and mucus.

The tænia was nearly seventeen feet long, and broken into three pieces. At one extremity it tapered off to the size of a thread, which makes it appear probable that although the head of the creature was not to be found the entire worm had been ejected.

For some days afterwards the patient suffered from exhaustion, and was under the belief that a portion of the worm yet remained behind. In order to test the reality of this, I gave her, after the expiration of three weeks, half a drachm of the oil of male fern, mixed with mucilage, twice daily, for three successive days. This acted as a diuretic and purgative, but without affording further evidence of the tape-worm. The patient has now lost all her dyspeptic and nervous symptoms, and is perfectly well.

The kousso was obtained from Mr. Hooper, of Pall Mall East, who had procured it from a different source to that which had been used in former cases. In most instances where it has been administered its action has been so slightly purgative as to require the subsequent use of castor oil, or some other aperient; but its effect in the present case seems to have approached nearer to that which takes place amongst the natives of Abyssinia, in whom it invariably produces active purging. This appears to be a matter worthy of notice, since, the more closely it resembles the action it has upon the people of the country where it is so famed, the greater must be the chance of its purity and the prospect of its success.

Now that kousso is likely to become less expensive, and that experiments may be made with it without the risk of ruining our patients,* it would be well to ascertain whether a smaller and less violent dose might not be equally serviceable.

I remain, sir,
Your obedient servant,
Richard Payne Cotton, M.D.
Assistant-Physician to the Hospital for Consumption.

4, Bolton Street, Piccadilly,
Feb. 18, 1851.

COMPLAINT REGARDING THE PUBLISHED LIST OF MEMBERS OF THE NATIONAL INSTITUTE.

Sir,—The Editor of a weekly medical journal which has recently sprung into existence under the auspices of the National Institute, not having other matter to fill its pages, publishes a list of names of general practitioners of the National Association. Not to dwell upon the absurd headings in the table of contents of each number, I would particularly point out the fact that this list dates in the year 1845. What can be the object of the Institute in reproducing at this time a list of names got together six years ago? Is it with a view to having it believed that the owners of all these names are also members of the present National Institute, as well as of the National Association of 1845, and their opinions identical? If so, it perpetrates a great misrepresentation. I see my own name there, but I never subscribed nor have intended to subscribe to its funds any more than I do to the acts or deeds of the Institute, from which I as well as many others, whose names appear, dissent altogether.

There is, moreover, a history connected with this list, as a list of the members of the National Association, which it may be has been forgotten, or is withheld by those who now bring it before the public, but which, for truth's sake, I will here relate.

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* This dose cost a sovereign; but Mr. Hooper is now selling it at half that price.

It will be remembered that in the year 1844, the measure of medical reform proposed by Sir James Graham, together with the private charter of the College of Surgeons, caused extensive dissatisfaction in the profession. Local meetings were everywhere held, and addresses to the Houses of Parliament were prepared for presentation. There was a meeting of this kind held in the suburb in which I reside. After a while it was thought advisable that our local association should merge into a larger one of the borough in which we lived; this was done, and our first subscriptions constituted us members of the borough association. It was not long afterwards that the leading members of this association persuaded their brethren that their strength would be increased by union into one large metropolitan association; this was also agreed to, and forthwith all our names were transferred to the muster roll of the National Association.

Thus it was that many names appeared among those of its members, and have been retained there, although their owners never contemplated, and have not approved of, the subsequent measures which have been carried forward by a few of the most active or most ambitious, but least judicious members, who have since converted the Reform Association into a Revolutionary Institute. You will perceive, therefore, that the long list of names which is now being paraded as of Members of the National Association, must be subjected to very considerable deductions both of living and of *dead* members, before the number of Members of the National Institute can be inferred from those of the National Association.—I am, sir,

Your obedient servant,

A GENERAL PRACTITIONER.

February 15, 1851.

Medical Intelligence.

OTICE TO STUDENTS REGARDING CLINICAL INSTRUCTION IN HOSPITALS.

Apothecaries' Hall, Feb. 6, 1851.—The ourt of Examiners of the Society of Apoecaries, having learned that considerable xity has been evinced by Students in eir attendance upon those branches of ractical Hospital Instruction which are cluded under the term Clinical Medicine, reby request that the Physicians of Hostals will secure such attendance in whater manner they may deem most expeent, and that they will not fill up that rtion of the Schedule appropriated to inical Lectures except after a *boná fide* tendance.

In those Schools where a distinct Professorship of Clinical Medicine has been established, Certificates of attendance on Clinical Lectures will be received in addition to, or in place of, the Second Course of the Theory and Practice of Medicine; but where such attendance is received in place of the Second Course of the Theory and Practice of Medicine, the Clinical Lectures must be at least Seventy-five in number, and must be attended during the Second Summer and Third Winter Session.

By order of the Court of Examiners,

HENRY BLATCH, Sec.

THE CHOLERA AT JAMAICA.

RECENT accounts from Kingston, Jamaica, state that cholera was fast disappearing from the colony, and the only parish now afflicted to any extent is Lucia.

AN ANTICHLOROFORM BILL.

ON Monday last Lord Campbell laid on the table of the House of Lords a Bill for the more effectual punishment of burglary, and also of robbery committed by means of chloroform. His Lordship said he was sorry to be the instrument of extending the criminal code, but when new crimes were resorted to it was necessary that new punishments should be provided for them.

THE STAFF OF ST. MARY'S HOSPITAL.

THE gentlemen whose names were published in our last number, page 351, were elected to their respective offices, by the Governors of the Hospital, on the 24th instant.

LECTURES AT THE ROYAL COLLEGE OF SURGEONS.

THE courses of lectures annually delivered in the theatre of this institution will be commenced on the 4th of March next, by Professor Owen, who will deliver twenty-four lectures on Comparative Osteology. Professor Paget will follow, and deliver six lectures on Tumors, commencing on the 29th of April. The lectures will be delivered on Tuesdays, Thursdays, and Saturdays, at four o'clock.

THE MEDICO-CHIRURGICAL SOCIETY.

THE following is the list of officers and other members of council nominated for 1851-52:—President: Joseph Hodgson, F.R.S. Vice Presidents: Thomas Mayo, M.D., F.R.S.; John Thomson, M.D.; William Coulson; Alex. Shaw. Treasurers: Robert Bentley Todd, M.D. F.R.S.; Richard Quain, F.R.S. Secretaries: Seth Thompson, M.D.; Campbell de Morgan. Librarians: Henry Pitman, M.D.; James Dixon. Other members of Council: George Cursham, M.D.; Sir James Eyre, M.D.;

William Macintyre, M.D.; William Merriman, M.D.; Alex. Sutherland, M.D., F.R.S.; James Clayton; Henry Charles Johnson; Henry Hancock; John Hilton, F.R.S.; Andrew M. Macwhinnie.

OBITUARY.

The foreign journals announce the death of Naegele, Professor of Midwifery at Heidelberg, at the age of 72; and of Langenbeck, Professor of Anatomy and Surgery at Göttingen.

On the 17th ult. at York, William Travis, of Scarborough, M.D., in his 80th year.

On the 20th inst., at his residence, 3, Belle-vue, Hampstead, William Henry Acret, Esq., of Torrington Square, in the 68th year of his age. Mr. Acret had been long known as a respectable general practitioner.

On Saturday morning, the 22nd inst., Caleb Clarke, M.D., at his residence, Barnbury, Oxon, in the 41st year of his age.

On the 19th inst., at Reading, Thomas Skeete Workman, Esq., æt. 52.

On the 24th inst., at his father's residence, in St. Peter's, Thanet, William Trew, Esq., surgeon, of Marlow, Bucks, only son of Thomas Trew, Esq., æt. 36.

Selections from Journals.

A CASE OF DESTRUCTION OF THE LEFT HEMISPHERE OF THE CEREBELLUM, AND MORBID CONDITION OF THE INNER SURFACE OF THE CRANIAL BONES. BY DR. GUSTORF, BERLIN.

Count A——, when twenty years of age, possessed of the highest intellect and acuteness of the senses, was of a frail, slight build, with a weakly and scrofulo-nervous constitution. His mother had died of pulmonary consumption, and his father had often suffered from syphilis, and at the time of the son's birth was still labouring under secondary syphilitic disease of the eyes, bones, and skin. Soon after the birth, the child had an attack of purulent ophthalmia. During dentition he had suffered also from strumous glandular swellings. From the age of two years he became the subject of rickets; his skin assumed a crinkled discoloured appearance, and altogether he began to have the aspect of an old man. In proportion, however, as nature denied him external advantages, she bestowed upon him greater internal endowments; the more the development of his body was retarded, the more striking were his mental manifestations.

The Count possessed extraordinary activity and power of imagination, unusual memory, wit, and acuteness of apprehension. He had received a princely education, having the advantage of the instruction of a celebrated natural philosopher. The study, however, of natural philosophy so excited his imagination as to produce at one time a severe attack of illness.

The same activity of disposition and mind led him into sexual indulgences, for which he paid the penalty of syphilis. Remonstrances were in vain; he promised much, but performed nothing. He became attacked with severe pains in the joints, affections of the throat, frequent epistaxis, sleeplessness, distressing dreams, severe head-aches, with heat of scalp and coldness of extremities. The pulse was habitually feeble, small, and frequent. The pains in the limbs became so severe, that he was at length compelled to keep to his bed. His constitution became so impaired that he was rendered susceptible of the slightest changes of weather or epidemic influences. Two years before his death he had fallen from his horse in a state of intoxication, and was in consequence delirious for two days. After that time he felt a constant sense of heaviness in the part, and in warm weather a dull painful feeling of pressure in the back of the neck. The patient would on no account permit a seton to be inserted. His uncontrollable disposition presented incessant obstacles to the treatment advised by his attendants. In June, 1834, he fell from a height of about three feet. While looking up at a ruin he became giddy, and felt acute pain,—to use his own expression, as if a pitchfork had been thrust through his brain: he became unconscious for several minutes. After some little time all ill-effects of this accident appeared to have aggravated the usual head-ache. Giddiness, sickness, muscular tremors, imperfect vision, and coldness of the hands and feet, were superadded. Derivation and counter-irritation were practised, and the patient was warned against every source of excitement. Eight days afterwards an attack of vertigo occurred, so severe, that he was obliged for some time to lean against the wall for support. Frequent nausea, and at length vomiting of greenish matter, followed, and the patient was again compelled to take to his bed. Every object around him seemed to be moving in circles. The vomiting continued. A severe pain was felt on the left side of the back of the head, increased by sneezing, coughing, or straining. Scintillations and double vision took place in the left eye, which could not be directed outwards. The pupil was contracted, and a persistent intolerance of light occurred. The patient stammered, and was at a loss for partic words occasionally. There was a general weakness in the left hand and foot, cold perspiration, irregularity and feebleness of the pulse, furred tongue, obstinate costiveness. Epileptic cramps of the upper extremities occurred at intervals, followed by deep sleep. The movements of the lower extremities—the right especially—were enfeebled, so that he had no more control over himself than a drunken man. The slightest excitement produced severe pain in the chest, and dyspnœa, weakness of the voice, sense of pressure in the neck, cold sweat over the whole body, and a peculiar and characteristic expression of countenance. These symptoms reached their highest degree if the patient changed from the sitting to the lying posture. The organs of generation retained their activity: erection was not absent. The urine was in its usual quantity, and of a brown colour. The pulse feeble, and often as frequent as 130 in the minute. Consciousness and the mental powers were unimpaired. His nights were disturbed by syphilitic pains in the bones, so that he did not fall asleep until morning; while asleep, he uttered cries as if in pain; on waking, he suffered a paroxysm of severe pain in the head, lasting for more than half an hour, which he expressed to be as if his head were squeezed in a vice: every object seemed enveloped in a cloud, and his voice was scarcely audible.

The patient died in tetanic convulsions on the 20th October.

Post-mortem examination.—Cranium: The skull was unusually arched forwards; the parietal bones were disproportionately arched above when compared with the smaller diameter between the two temporal bones. The occipital bone was not so much arched; a sharp exostosis projected from the occipital protuberance: the left side of the occipital bone was larger than the right. The measurement of the head round its larger circumference was one foot, eleven inches, three lines; from the root of the nose to the *foramen magnum occipitis*, one foot five inches; across the head, from ear to ear, one foot, one inch. The cranial bones were thin, their internal surface of a greyish-red colour, porous, and rough, as if covered with grains of sand; the natural ivory-like surface and vitreous table was wanting; the roughness was very remarkable, especially at the base of the cranium, the wings of the sphenoid bones, and in the *sella turcica*. The cribriform plate of the ethmoid bone was as thin as fine skin, and easily broke down. The *dura mater* was healthy. The *pia mater* was congested with dark blood. The cavity of the arachnoid contained about two table-spoonfuls of reddish fluid. A number of small osseous particles, varying from the size of grains of sand to that of millet seeds. The brain itself showed no morbid appearances, except that the grey matter on the left side was very pale—the consequence, probably, of incipient degeneration. On raising the *tentorium cerebelli*, the left hemisphere of the cerebellum appeared larger and tenser than the right, but to the touch presented a sense of fluctuation. At the outer border of the left hemisphere, where this comes in contact with the bone, the cortical substance was perforated with numerous holes, and was of a blackish-blue colour. A vertical incision through the left hemisphere presented the following alterations of the cerebral substance. The cortical substance, much thinned, constituted a sac about the size of a hen's egg, inclosing a yellow inodorous fluid, in which was contained a substance about the size of a walnut, and of a bluish-black colour, having a spongy (blutschwammartiger), vascular, or fleshy texture. It discoloured the fingers with blood, when pressed. It had all the appearance of a mole. The fourth ventricle, the *pons Varolii*, and the *medulla oblongata*, were readily reached through this cavity. The cerebral matter had entirely disappeared. The right hemisphere and the medulla were quite healthy.

Dr. Gustorf suggests that the disease may have begun as chronic syphilitic and scrofulous peritonitis; that the fall on the head, or a spring from his horse, had determined extravasation of blood into the cerebellum, and its not being absorbed gave rise to the foreign body which was found in its cavity, and was the immediate cause of death.—*Casper's Wochenschrift*, 1850. x

ACCOUNT OF A NOSENCEPHALIC* FŒTUS ADHERENT TO THE PLACENTA. BY MM. J. GUITARD AND JOLY.

This malformed fœtus was born living, at Toulouse, on the 26th July, 1850; it lived forty-two hours, cried, and swallowed a little sugared water. The mother, a primipara, was twenty-four years of age. She stated that at the beginning of her pregnancy she had frequent quarrels with her sister, who on one occasion exclaimed "I hope the child you bear will prove a monster." From this moment the mother was, she stated, continually possessed with this idea; she feared the realization of her sister's maledictions, and this fear pursued her unceasingly up to the time of her delivery.

The placenta was adherent by membranous bands to the face, and to a nervous-vascular tumor which represented the brain. The mouth was wide open, the nose scarcely perceptible, the eyes protruded from their orbits, a palatine fissure existed, the right superior maxilla was detached from an intermaxillary bone which was present. With the exception of considerable development of the abdominal region, and flexure inwards of the feet, the body externally presented nothing remarkable. Internally, the heart was placed on the right side of the chest, without transposition of the abdominal viscera. The external female genital organs were largely developed, but the internal sexual organs were wanting, the vagina teminating in a thin membrane.

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* "*Nosencephalic*—having the skull open only on the frontal and parietal regions, the posterior fontanelle being distinctly present."—Dunglison's Medical Lexicon.

The placenta was small, oval-shaped, and of the kind called *placentas en raquette.* The umbilical cord was about four inches in length, and was formed of a single vein and artery.

MM. Guitard and Joly attach considerable importance to the mental impression, the possibility of the influence of which in causing arrest of development they consider to be placed beyond a doubt by the histories of other malformations. This fœtus is pointed to by the authors as proving the existence of the intermaxillary bone in the human species; also the independence in development of the urinary and genital organs—the latter being in this case wanting, while the former were perfectly formed.—*Comptes Rendus.*

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo. By John Lizars. Edinburgh.

On the Causes, Symptoms, and Treatment of Spermatorrhœa. By M. Lallemand. Translated by H. J. M'Dougall. 2d edition.

Essays and Notes on the Physiology and Diseases of Women, and on Practical Midwifery. By John Roberton.

Remarks on the Decay of the Teeth. By J. Simpson, Surgeon-Dentist.

General Index to the First Thirty-three Volumes of the Medico-Chirurgical Transactions.

A small Contribution to the Great Exhibition of 1851, refuting the Fear of Disease. By J. C. H. Freund, M.D.

The American Journal of Dental Science. By C. A. Harris, M.D., D.D.S. Vol. 1, Nos. 1—4, July—Oct. 1850.

The New York Register of Medicine and Pharmacy. By C. D. Griswold, M.D. Nos. 8 and 9.

The Philadelphia Medical Examiner for Nov. and Dec. 1850, and Jan. 1851.

BIRTHS & DEATHS IN THE METROPOLI

During the Week ending Saturday, Feb. 2

BIRTHS.		DEATHS.	
Males....	792	Males....	607
Females..	775	Females..	606
	1567		1213

CAUSES OF DEATH.

ALL CAUSES 1213
SPECIFIED CAUSES 1211
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....
Sporadic Diseases, viz.—
1. Dropsy, Cancer, &c. ....
2. Brain, Spinal Marrow, Nerves, and Senses ....
4. Heart and Bloodvessels.........
5. Lungs and organs of Respiration
6. Stomach, Liver, &c. ....
7. Diseases of the Kidneys, &c. ....
8. Childbirth, Diseases of Uterus, &c.
9. Rheumatism, Diseases of Bones, Joints, &c. ....
10. Skin............................
11. Premature Birth ....
12. Old Age ....
13. Sudden Deaths..................
14. Violence, Privation, Cold, &c....

The following is a selection of the number Deaths from the most important special ca

Small-pox..........	18	Convulsions......	
Measles............	29	Bronchitis	
Scarlatina	9	Pneumonia......	
Hooping-cough	65	Phthisis	
Diarrhœa..........	16	Lungs	
Cholera............	0	Teething	
Typhus............	35	Stomach	
Dropsy	24	Liver..........	
Hydrocephalus	32	Childbirth	
Apoplexy	34	Uterus	
Paralysis	25		

REMARKS.—The total number of death 146 *above* the average mortality of the of *ten* previous years. The only feature in the return is the large deaths from Hooping-cough among and from Bronchitis among adults.

METEOROLOGICAL SUMMA

Mean Height of the Barometer ....
" " " Thermometer^{a} ......
Self-registering do.^{b} .... Max. 61° Min.

^{a} From 12 observations daily.

RAIN, in inches, 0·8.—Sum of the daily vations taken at 9 o'clock.

METEOROLOGICAL.—The mean temper the week was 4°.5 *above* the mean of the

NOTICES TO CORRESPONDE

We are obliged to Dr. R. M'Gregor, of for his communication. The paper inserted with as little delay as possible, proof sent.

Dr. Inman's letter has been received.—Our marks were rather intended as a caution inferences drawn by practitioners microscopical research, and where the expressed may lead to a sentence of trans tion for life.

Mr. Bate's continuation paper on the Teeth be inserted next week.

RECEIVED.—Mr. Nunn—Mr. J. Workman

Lectures.

CLINICAL LECTURE ON THE PULSE.

(Delivered at King's College Hospital.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XX.

Frequency or number of the pulse—Influence of posture upon the number of the pulse—The law as regards this influence—Exception to this law—Cases—Morbid influences which affect the number of the pulse—Intermitting pulse—The most common kind—Does it indicate organic disease?—Generally sympathetic—Dyspeptic and gouty—Second form of intermitting pulse—How affected by posture—Quality of the pulse—Different kinds of sthenic and asthenic pulses—The locomotive pulse.

In my last lecture, gentlemen, having described to you the manner in which the pulse is developed, I concluded by pointing out to you the intimate connection between the rhythm of the pulse and that of the heart; so that, whatever be the law which influences the latter, the same law regulates the former; and, if any difference arise, it is due to an occasional failure in the power of the heart to contract with sufficient force as to be felt throughout the arterial system.

It is clear, then, that the rate of frequency, or the number of the pulse, will depend upon the frequency of the heart's contractions. These, I need not tell you, are much influenced by age, sex, and temperament, being most frequent in the earliest ages, and diminishing in number as age advances; being also more frequent in the female than the male, and more frequent in the sanguineous and nervous temperaments than in the melancholic. The period of the day seems also to exercise some influence, for the pulse is generally less frequent in the afternoon than in the morning.

But what is to us most interesting, in a practical point of view, is the fact, now well established by the observations of several distinguished observers—Bryan Robinson, Macdonnell, Graves, Knox, and, though last, not least, my colleague, Dr. Guy—that posture exercises a marked, and, it may be said, in the normal state, a constant influence upon the rate of frequency of the pulse. The law is, that, in the erect or standing posture, the pulse is most frequent; that in the sitting position it is less frequent; and that it numbers still less when the person is horizontal or recumbent. In other words, it may be stated, in general terms, that the pulse is most frequent in that position of the body which demands the greatest amount of muscular effort for its maintenance, and least so in that which may be maintained without any expenditure of muscular or nervous force.

It is a useful practice, whenever you can do it without inconvenience or disadvantage to your patient, to count the pulse in various positions. But let me especially recommend you to do so whenever the patient complains of giddiness of head, or of obscure uneasy feelings about the head, or when he exhibits symptoms which lead you to suspect a feeble circulation. If you adopt this, you will now and then meet with cases in which the law of frequency, in different positions, as I have stated it, will be reversed, or at least not observed. When in the standing position the pulse will be less frequent than in the recumbent or sitting postures; or at least the change of posture from lying to sitting or to standing will cause no increase in the rate of frequency.

I have observed this violation, so to speak, of the law of frequency of the heart's action and of the pulse, in cases in which the heart has been weakened either by functional derangement or by a depraved and enfeebled nutrition of its muscular fibre. Many years ago I first noticed this in a well-built muscular man, aged thirty-four, who after exposure to cold fell into ill-health, and, from having a fresh and ruddy complexion, became quite pale and sallow. I could discover about him no indications of any other disease than a state of anæmia, sufficient to give rise to a bellows murmur in the aorta, and also a venous murmur in the neck. On several occasions this patient's pulse was found to be more rapid in the recumbent than in the erect posture: it was frequently counted eighty-four in the erect posture, and ninety-two in the horizontal; it was also at times ninety-eight in the horizontal and eighty-eight standing; and likewise eighty-eight standing and ninety-two recumbent. After a time the rate of frequency became the same in both positions; and before he left the hospital it had resumed the normal state; the anæmic symptoms having materially subsided.

A country gentleman, of good fortune, accustomed to live well, about 55 years of age, applied to me in consequence of giddiness of head. The feeble character of

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his pulse led me to examine it in different postures, and I discovered, to my great surprise, that it was not only more frequent, but distinctly fuller and stronger, in the horizontal than in the erect posture. I found in this case evidence of great derangement of the digestive organs, and of a general gouty state, for which he had been quacking himself for some time with large quantities of the most debilitating purgatives. I observed too, that he had had a habit of standing about, when others would sit; excepting at his meals he was all day in the erect posture, standing or walking. He passed considerable quantities of lithic acid in rhomboidal crystals. Under a treatment directed to his digestive organs, a regulated diet, moderate exercise, and upon his getting rid of the habit of standing so much, he lost his giddiness, and the peculiarity as regards the greater frequency of the pulse in the horizontal posture disappeared.

Some time ago I was asked to see a respectable tradesman at an early hour in the morning. I found him in bed, and complaining of a giddiness, or, as he described it, a swimming in the head, which continued even in the horizontal posture, but was made worse when he sat up. He was an industrious, hard-working man, about sixty years of age, not intemperate, but who lived well, ate heartily, and took beer and spirits. He was stout in make, and fat in belly, and was of the gouty diathesis, having had several threatenings, but no regular attack. He had a small, feeble pulse, which was several beats more frequent in the horizontal than in the erect posture; and this continued until, under an alkaline and tonic treatment, the giddiness disappeared. Some months afterwards this patient became dropsical in his lower extremities, and died with all the signs of a weak and dilated heart.

Some of you will recollect a middle-aged woman, a short time since, in Augusta Ward, with whom the most prominent symptom was giddiness. In this woman the pulse was more frequent in the horizontal than in the erect posture. She staid, however, but a day or two in the hospital, and we lost sight of her.

I have now frequently observed, in connection with feebleness of heart and uneasy sensations about the head, this feature of the greater frequency of the pulse in the horizontal than the erect posture, or the non-increase of its frequency after the change from horizontal to erect. I associate it with feeble action of the heart: when the patient rises to the erect posture the heart becomes embarrassed, and acts with more difficulty and less freedom, and falls in frequency; when the horizontal posture is assumed the embarrassment is relieved, and the heart acts more freely, and beats more frequently.

Sometimes the embarrassment occasioned by the erect posture is so great that intermission takes place; and in such cases the diminished frequency of pulse in that posture is not always accompanied with diminished frequency of heart's action. But many of the beats of the heart are so feeble as to be insufficient to cause a pulse at the wrist; so that you may have the heart beating twenty or thirty times more frequently than the pulse. On resuming the recumbent posture, however, the heart's beats acquire more power, and each systole causes a pulse.

It is a particularly interesting point in these cases, and also one of great practical importance, that they are so obviously connected with giddiness in the head; and the fact serves to associate that symptom with feebleness of the central organ of the circulation. I know that many look upon giddiness as a sign of congestion of the brain. If there be congestion in such cases as I have referred to, it must be a congestion which is consequent upon a feebleness of the impelling power of the heart.

The frequency of the pulse is affected by various morbid influences, of which you will find the following the most potent:—

1. *The condition of the blood.*—A poor blood is almost always associated with a very rapid pulse; in animals bled to death the pulse attains an increasing frequency as the blood flows; this occurs in men who have been very largely bled, and in cases of excessive hæmorrhage, whether hæmoptysis, epistaxis, or hæmatemesis, or after surgical operations the pulse attains great rapidity.

2. *The existence of a poison in the blood.*—This tends generally to increase the frequency of the pulse, and so you find the pulse quick in the early periods of the exanthemata of typhus. The administration of alcohol to a healthy man affords a good illustration of this; as soon as he has taken a certain quantity of it, acceleration of the pulse takes place. But some poisons will produce a contrary effect, by depressing and weakening the heart's action, as you well know in the administration of digitalis, or of hydrocyanic acid. So also, some of the animal poisons, if taken in large doses, will cause depression of the heart's action and a slow pulse. We have now a case of scarlet fever, in a man named Boon, in Rose ward, with whom the pulse was as low as 60 before the eruption had come out fully; a state which seemed to me to indicate the use of stimulants, and under their administration the heart's action increased in force and frequency, and the patient did well.

3. *The state of the nervous system exercises a very remarkable influence upon the rate of frequency of the pulse.*—It is one of the features of the hysterical diathesis, that the pulse, always quick, becomes accelerated under the slightest disturbance, physical or mental. Cerebral lesion sometimes causes a very depressed state of pulse; as, for example, inflammation of the brain, vomiting, pain in the head, and sluggishness of pulse, are symptoms which should always awaken the anxiety of the practitioner, as regards the state of the brain. In many instances of injury to the head, concussion, fracture with depression, the pulse becomes notably retarded until the compression of the brain has been removed. So also in many cases of apoplexy, the pulse is sluggish, and the heart seems oppressed.

Of intermitting pulse.—Among the most interesting modifications of the pulse, which we meet with in practice, is that which arises from impairment of the rhythm of the pulse, or what is called the *intermitting pulse.*

The most common form of intermitting pulse is that in which the phenomenon of intermission results from the prolongation of the natural period of rest in the series of changes which constitute the heart's rhythm. The heart's rhythm consists of a regular succession of first sound, second sound, rest,—first sound, second sound, rest,—and so on. Now in an intermittent pulse this rest is unnaturally long,—the first sound of one beat succeeds the second of the previous beat, but after too long a pause. Sometimes the intermissions are very regular, occurring after every fourth or every third beat; sometimes perfectly irregular, at one time after every one or two beats, at another, every thirty or forty.

Now what are the indications of this form of intermittent pulse? Is it indicative of organic disease? I think I may state positively that an intermittent pulse of itself affords no indication of organic disease of the heart. The phenomenon of intermission is due to some disturbance of the local nervous influence, upon which, probably, the rhythmical character of the heart's action depends. Nor are we justified in pronouncing unfavourably of a patient because he has an intermittent pulse. You will meet with many persons who will tell you that they have had intermitting pulse nearly all their lives. Take a man in his ordinary health, and discharging his usual avocations,—for example, a medical student,—and suppose this intermittent pulse to be his only notable symptom, then you may set it down, without any hesitation, that there is no organic disease,—neither valvular lesion, nor any organic change in the healthy condition of the heart in any other respect.

But undoubtedly this form of intermitting pulse denotes a derangement of the heart's action of a sympathetic nature, and almost invariably in sympathy with the state of digestion. This kind of pulse is of very common occurrence in men who work hard, neglect exercise, are irregular as to meals, and sit up late at night. It is also very common, and doubtless from the same cause, in gouty men. Intermittent pulse is not uncommonly a precursor of a paroxysm of gout. Certain ingesta are very apt in some people to cause intermission of the pulse. Tea, for example, especially green tea, is one of these: ices, more particularly cream ices, will do the same. So, also, certain medicines,—as digitalis and colchicum.

Of all the causes of intermitting pulse in persons of middle age, or upwards, and in the middle or higher classes of society, I think you will find the gouty state the most common. The *materies morbi* of gout acts upon the nervous system of the heart much in the same way as the principle of green tea or of digitalis would do, and gives rise to the disturbance which deranges the heart's rhythm: hence, in the treatment of these cases, you must endeavour to purify the blood, by regulating the diet and by promoting the excretions, in such a manner as will not debilitate your patient.

I have stated that the intermittent pulse is not a necessary indication of organic disease of the heart. It is a curious fact, which is in some measure confirmatory of this remark, that of the various forms of disease to which the heart is subject, intermitting pulse is not of very frequent occurrence with any, nor is it constant to any particular form.

If there is one state of cardiac disease with which it is more frequently associated than with another, I should say it was disease of the mitral valve accompanied by weakness of the muscular fibre of the heart. But a large number of cases of mitral disease will occur without it to one with it; and, therefore, this occasional association gives it no value as an indication. The intermittent pulse depends on some interference with the healthy nutrition of the muscular system of the heart; and hence you get it so frequently in bad states of the blood,—as in dyspepsia, gout, rheumatism.

You may gather, from what I have stated more than once in the preceding part of this lecture, that there is another form of intermitting pulse besides that to which I have alluded. The characteristic feature of this form is, that the intermission of the pulse does not result from intermission of the heart's *rhythm*, but from irregularity in the *strength* of the heart's systolic contractions. The heart may never intermit, and yet the pulse may; or, in other words, the intervals between the beats of the pulse may vary considerably in duration. This form of intermitting pulse sometimes occurs alone, sometimes simultaneously with that in which the heart's rhythm is deranged. When it occurs in the progress of an acute disease, as of fever, erysipelas, &c., it must be looked upon as a sign foreboding the worst results. I apprehend that it is this form of intermitting pulse which most commonly accompanies fatty disease of the heart; and, on the whole, in all states of disease, both acute and chronic, it is that form from which we may augur least favourably for the patient.

Posture influences these two forms of intermittent pulse differently. The first form, or that which depends on a prolongation of the natural period of rest in the heart's rhythm, is diminished by the erect posture, and the heart becomes more regular in its rhythm. On the other hand, the erect posture increases the number of intermissions in the second form by embarrassing the heart's action in the way which I have already described.

Quality of the pulse.—Having discussed some of the more important questions relating to the frequency of the pulse, we come now to what is a still more important consideration—namely, its *quality*. By the quality of the pulse, I mean that character of fulness, or strength, or weakness, which the touch learns to appreciate by the nature of the impression which the beat of the artery communicates to the finger.

Let us inquire what are the varieties as regards quality which we most frequently meet with in practice. We have a strong pulse, a weak pulse, a hard pulse, a soft pulse, a wiry pulse, a compressible pulse, a full throbbing pulse, a locomotive pulse, &c. Now all these are reducible to two classes—the one sthenic, the other asthenic; the one indicating an exaltation of vital power, the other a depression. The strong, the hard, and the wiry, may be classed together under the sthenic; the weak, the soft, the compressible, the throbbing, the locomotive, under the asthenic.

a. A *strong* pulse is felt when, on pressing the finger, you have a strong impulse; and when, from the thickness of the coats of the artery, there is no sudden subsidence, no undue yielding, after this impulse: in this case the second sound of the heart is clear and strong. Unfortunately, such pulses are greatly in the minority in hospital practice, and there are not very many diseases in which you meet with such. Now and then, in previously healthy men, who are taken with some sudden inflammation, you may meet with it; and such a pulse justifies a liberal use of depletive and antiphlogistic measures: then you will find that, under the influence of the flow of blood and the exhibition of tartar emetic, or some other depressing agent, you will get a laxer state of the arterial wall, and a less forcible systole, producing a form of pulse presently to be described.

b. A *hard* pulse is produced by a strong contraction of the ventricle and a more or less rigid state of the arterial walls, where the muscular coat of the artery is, as it were, in a state of spasm. Accordingly, in what is called a hard pulse, the artery retains its size, is compressed with difficulty, and the current is hard to stop. And this, in my opinion, is the state of pulse under which you may take away blood with least danger; but cases in which such a pulse as this occurs are not very common now-a-days, at least in hospital practice.

c. A *wiry* pulse is an extreme condition of hard pulse; while the unyielding character of the walls of the artery is as great, or greater, the impulse of the heart is less; and thus, while you get the same even, unchanging character of pulse, you get it smaller, giving it its peculiar wiry character.

The other forms of pulse are characteristic of an asthenic condition: the principal of them are

d. A *weak* or *small* pulse. This occurs where the stream of blood flowing through the artery is small, where the walls are thin and flaccid, and the action of the heart weak in a corresponding degree: but a not uncommon and notable exception to this last element in its formation takes place in one form of valvular disease, namely, the regurgitant mitral, or the obstructive mitral, where you have a strong heart, and yet, from the regurgitation or the obstruction, a small column of blood will be sent into the artery with a feeble impulse, and consequently a weak and small pulse will be developed.

e. A *compressible* pulse is almost always associated with a weak one. Its chief characteristic is its compressibility—that to stop the current you have but to apply trifling pressure. The case of William Boon, already referred to, was an exquisite example of a compressible pulse; the wall of the artery felt as if it were made of muslin. Sometimes the weakness and compressibility are so great (and this is more frequently the case near death) that you have a difficulty in adjusting the pressure of the finger so as not to stop the flow through the artery. I have frequently been groping about for the pulse, and found out at last that my finger was on the artery all the time, but that the slight pressure I had exercised had arrested the current, and so for a time caused a cessation of the pulsation. No small delicacy is required in feeling such a pulse as this. It is obvious to any one, that, in such a state, antiphlogistic treatment must be in the last degree injurious; the state being due to the enfeebled condition of both the heart and the arteries.

f. A *full throbbing* pulse.—This is a form of pulse the true nature of which does not seem to me to be always duly appreciated. Many men bleed when they find it, thinking it indicative of a sthenic state. Now you cannot have a full pulse without the concurrence of two conditions—want of power at the artery (or, in other words, a very yielding state of its wall), and an impulsive action of the heart. This impulsive action of the heart is *not* indicative of a sthenic state, it resembles the loose jerking action of the muscles of a paralytic limb under galvanic influence, as compared with the firm uniform contraction of the sound limb; moreover, the want of resistance in the artery is clearly due to an asthenic state of its muscular fibres. If you take two India-rubber tubes, and heat one of them, leaving the other cold and rigid, and then impel from a single syringe which communicates equally with both an equal amount of fluid into them, the comparative pulsations that you will get will exactly represent the one a *full throbbing*, the other a *hard* pulse.

g. A *locomotive* pulse.—This is very peculiar, and in the majority of instances is characteristic of a particular form of heart disease. It consists immediately and essentially in a rapid transition from a state of extreme distension to a state of collapse of the artery. It is called *locomotive* from the great amount of movement, visible to the eye, which it imparts to the superficial arteries. This is most conspicuous where the course of the artery is curved: hence the temporal artery, which is at once superficial and curved, displays it well; and also you may see it well in the brachial artery at the bend of the elbow when you flex the forearm on the arm. It is particularly conspicuous in old persons whose arteries are tortuous. This kind of pulse occurs in its most marked form in certain cases of organic disease of the heart, where it at once localizes the lesion, and shows the particular derangement of function that it gives rise to. It shows that the disease is situated at the semilunar valves of the aorta, and that it is of such a nature as to admit of regurgitation. The value of this form of pulse as evidence of this state of the valves arises from its being the immediate and necessary consequence of the lesion. Instead of the column of blood impelled into the artery being supported, on the cessation of ventricular contraction, by the semilunar valves, and the artery gradually collapsing from the onward flow of the blood, the blood flows back through the patulous valves into the ventricle immediately on the cessation of the systole, and the collapse of the artery is as sudden as its distension. The degree of collapse may afford, in some degree, a measure of the imperfection of the valves.

The case of Loveland, in Sutherland Ward, to which I have already referred, affords an excellent example of this kind of pulse. You may see the locomotion of the artery very distinctly by bending the forearm on the arm; and the throbbing of the carotids, which is very conspicuous in his case, is due to the alternate dilatation and collapse of the arteries.

But it is important for you to bear in mind that a pulse very much of this kind is apt to occur in certain diseases of debility in which, while the heart acts impulsively, the arterial walls are devoid of tone, and the valves of the aorta are more yielding than they ought to be.

I have now given you a general idea of what the pulse is, of what forces are concerned in its production, and what principal varieties it is susceptible of. I must postpone to another lecture what I have to say of the state of the pulse in different forms of disease.

ANÆSTHETIC AGENTS.

Mr. Trask, in his Notes on Hospital Cases, remarks that — Chloroform and sulphuric ether have both been frequently employed for anæsthetic purposes, and generally with most gratifying consequences. Ether was used in preference to chloroform, from an impression that its exhibition was less hazardous. It was used almost indiscriminately in cases of dislocations, in reduction of fractures, in the examination of extensive wounds of the soft parts, and previous to making incisions for the evacuation of pus in deep-seated abscesses, in phlegmonous erysipelas, periosteal inflammation of the fingers, &c. The effects of these agents were most gratifying in the reduction of dislocations, which, after its administration, was effected with very little exertion.

In only one case of labour was chloroform resorted to. Its administration was followed by an almost entire cessation of the pains, which continued so long as the patient was at all deeply influenced by it. By keeping her but moderately affected, the action of the uterus was not interfered with, and she was delivered in a condition of partial insensibility. In private practice he stated he had administered both chloroform and ether in cases of labour, with none but the most happy effects; and in none but the above instance had he seen the strength of the pains affected by either of these agents.—*American Journal of the Medical Sciences.*

Original Communications.

ON THE
RISE, PROGRESS, AND VARIOUS TERMINATIONS OF CHRONIC OVARIAN TUMORS.

By Edward John Tilt, M.D.
Senior Physician to the Paddington Free Dispensary for the Diseases of Women and Children, &c. &c.

[Concluded from p. 192.]

Effects of Ovarian Tumors on the Crural Nerves and Vessels.

We shall at some future time draw attention to the pains in the lumbar regions, in the lower extremities, to the drowsiness and numbness of one or of both lower limbs, and to the swelling of the legs, as effects of the pressure of an ovarian tumor on the nerves and vessels when it is in the pelvis; but in some cases the tumor encroaches even more directly on the lower limbs Thus Valleix mentions having seen a case of phlebitis and phlegmasia alba dolens evidently produced by the pressure of an ovarian tumor.

Morgagni speaks of a steatomatous tumor of the belly which sent a prolongation under the crural arch, and pressed forcibly on the crural vessels. Dr. Atlee found a similar disposition in one of the patients he operated on.

The following example of this strange occurrence is related by Columbat (p. 843):—

Case.—In 1830, Dr. Huguier opened the body of a woman who died from ovarian dropsy complicated by ascites, and he found an ovarian tumor larger than a man's head. It was divided into four portions: the first, internal and inferior, filled the pelvic cavity; the second, anterior and internal, occupied the corresponding portion of the abdomen; the third portion was superior and external. Its summit reached the inferior portion of the right side of the liver: it had dissected the peritoneum from the right costo-iliac region, forcing upwards and forwards the cæcum and the right kidney. The fourth portion of this singular tumor, after having detached the peritoneum from the right iliac fossa, and from the lower portion of the anterior wall of the abdomen, had entered the crural canal in which the intestine is so often strangulated, but in its entire length following the aponeurotic expansion which the fascia illiaca sends to the thigh. This portion of the tumor was encysted; it was three inches long and two in breadth, and it was situated behind and outside the crural vessels.

If symptoms of strangulation had suddenly come on, and if the patient had been attended by a surgeon ignorant of her previous history, he would certainly have thought the patient suffering from hernia; or even if the patient had been attended by a surgeon of more than ordinary capacity, and well acquainted with the history of the case, he would have thought it at least complicated by hernia, and would no doubt have operated.

It would seem that we had at least exhausted the list of organs on which ovarian tumors encroach and whose functions they seriously impede; but when they have attained a very considerable size the diaphragm is forced upwards, and the lungs and heart are gradually compressed. This not only gives rise to most distressing dyspnœa, but prevents the oxygenation of the blood, which, on the other hand, is imperfectly renovated on account of the restricted space allotted to the intestines. A still more serious accident may occur: for Adelman (Siebold's Journal,) mentions a case of ovarian dropsy filling the abdomen, pressing up the liver into the right side of the chest and stomach, and spleen into the left, the diaphragm being as it were dissolved and no longer to be traced. We are not answerable for this case; but give it as related in Messner's Zimmerkankreiten.

If, after having carefully described the effects of ovarian tumors on the abdominal viscera, we inquire into the degree of vitality with which these tumors may be gifted, and the time which they take to fulfil their career. we find that small ovarian cysts may for years lie dormant and unperceived, until from the effects of the cause already described they gradually increase, and at the end of a year or so give proof of some internal derangement. When the tumor has entered the abdomen its growth is more rapid, and as it increases, and long before the constitutional powers have been seriously compromised, the cyst becomes the principal centre of nutrition; it absorbs everything, and the rest of the body becomes emaciated: the limbs resemble spindles, and in the last stages the facies of patients often indicates the disease. The face becomes elongated, thin, and shrivelled, the alæ of the nose are drawn down, the lips are thin and are likewise drawn downwards, the cheeks are furrowed, the eyes seem larger from the atrophy of the subcutaneous cellular tissue, the skin itself is thin, but pale, and without the peculiar aspect it presents in cancerous affections. With regard to its average duration authors are at variance. It is generally believed that it lasts four or five years, or even more; but Mr. S. Lee has sought to refute this opinion by a table wherein the duration of the disease in 131 cases is recorded; and from these he deduces that the average duration of the disease is two years (S. Lee, p. 117).

This supposed rapid progress of the disease is a fact so startling, that I inquired carefully into the duration of the disease in our own cases, and in those on which we could depend; but it was not confirmed, and we think that in forming his table, the talented author, whose recent premature death is much to be lamented, may not have sufficiently distinguished between the origin of the disease and the time at which the medical attendant took the case in hand, and he has also fallen into the usual error of confounding in one table all the different forms of ovarian disease.

Ovarian disease may manifest itself under three distinct forms, which are almost totally independent of the peculiar nature of the tumor; and ranging them in the order of their relative frequency they are—

I. The chronic.
II. The acute.
III. The per-acute.

1. The chronic form is the most frequent, and generally occurs to those in whom the *generative* function is on the wane, and in women who have passed their grand climacteric. The two years average does not apply to this form, and very frequently such cases are protracted to a very long period. Every practitioner must have seen very voluminous ovarian cysts existing for years, and without impairing the patient's health, unless inflammation supervened, when the extensive suppuration it entailed is accompanied by deterioration of the general health, the emaciation and exhaustion which are the forerunners of dissolution.

To give but one instance:—

Targioni speaks of a lady who was the subject of an enormous ovarian tumor for thirty-four years. Menstruation was always excessive; until its cessation she suffered from attacks of vomiting and dyspepsia, and she became emaciated, but her appetite was good. She could walk about until within the last week of her life; and, what is more singular, she could, at will, lie on either side, and without having her head raised.

When lately at Edinburgh, we saw Dr. Simpson tap, for the fifteenth time, a lady, whose health was otherwise as perfect as could be wished. The disease had, we believe, existed about fifteen years; and every author has cited similar instances of the persistence of excellent health with huge ovarian cysts.

The acute form is scarcely less frequent than the preceding It is generally met with in the young, in whom it is frequently traceable to ovarian and uterine derangement, and the acuteness of its march is evidently to be attributed to the greater activity of the generative powers at that age, the menstrual nisus, conception, pregnancy, and parturition, which increase the morbid activity of the ovarian tumor.

We believe that two years is about the average duration of life which can be expected by patients affected with this form of the disease.

III. The per-acute form is extremely rare. In a preceding number of this journal we have related the case of Mary Addison, in whom an ovarian cyst rose as high as the umbilicus in a month, and was attended by symptoms sufficiently acute to lead some of those who watched the case to fear that the tumor contained pus. We have seen two similar cases.

In one of the successful cases of ovariotomy another considerable tumor was developed in the space of the month which followed the removal of the first tumor. It could have been but very small indeed at the time of the operation, otherwise the operator and his assistants would have detected some enlargement. Dr. Blundell assures us that in the course of his practice he has met with four cases of this galloping variety of ovarian disease. Professor Hirtz, of Strasburgh, has published a similar case: and an author whose name has escaped our memory says,—"I have seen a small ovarian cyst lie dormant for so considerable a time as to throw doubt on the diagnosis, progress so rapidly in a fortnight as to acquire a large size, obstruct the breathing, and considerably impair and impede the vital functions." Such patients cannot hope to live two years.

We have, then, here before us, an example of the injudicious application of statistics to medicine to the discredit of both sciences. Cases as different as ascites and acute peritonitis are thrust into the same table, and from such a chaotic jumble deductions are drawn to guide us in our practice. Such tables may have been useful for a season in urging a patient to submit to a dangerous operation in the hope of escaping approaching death, but we trust they will not impose upon the profession.

So much for the duration of ovarian tumors. With regard to the intensity of their vitality, in addition to what we have already stated, another proof may be found in the enormous quantities of fluid repeatedly secreted by their internal surface. In one of Targioni's cases the ovarian tumor grew to 150 lbs. in a year: but one of the most curious cases is given by Martineau. A woman, when 27 years of age, miscarried, and immediately after felt pain and swelling in the left side. This tumor went on gradually increasing until the year 1757, when she was first tapped. She died in 1783; and thus lived 26 years with intervals of ease, having been tapped 80 times, and having had 6631 pints of liquid removed from her during that space of time. Martineau adds that the patient drank little, and passed little water; that about two pints of liquid were secreted per day, and more in winter than in summer (Martineau, Philosophical Transactions. 1786).

In such cases the cyst seems to be converted into an enormous filter, incessantly occupied in draining the blood of its albuminous fluids; and in the older authors, when we read of cases of ascites tapped repeatedly, without any breaking up in the patients' health, we may infer that the cases were not of ascites, but of ovarian cysts. Thus, as Sir Astley Cooper remarks, the case of Mrs. Mumford, who was tapped 155 times in less than four years, was probably one of ovarian dropsy.

The vital activity of these cysts seems to increase in direct proportion to their duration, and the number of times they require tapping. This is well shown by the interesting table which Mr. Hawkins has published (LONDON MEDICAL GAZETTE, July 6, 1843, p. 182).

From what we have stated it may be inferred that, in general, death is brought about by the gradual sinking of the patient's strength, caused by an imperfect supply of blood, and its vitiation consequent on imperfect oxygenation. When a speedily fatal termination occurs, it is the result of peritonitis, and is caused by one of the untoward events of which we have so fully treated in this chapter.

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NOTES ON THE

STRUCTURE, &c. OF TEETH.

By C. SPENCE BATE, ESQ.

[Continued from p. 285.]

ON THE DEVELOPMENT OF THE MAXILLARY BONES.

Inferior Maxilla.—The process by which the structure forming the osseous skeleton in vertebrate animals is developed is first by a general system of temporary cartilage, which tissue becomes subsequently converted from its original soft and pliant character into one hard and unyielding. "The temporary cartilages" (say Profs. Todd and Bowman in their Physiological Anatomy) "have the same general shape before as after their ossification; and as this process is slow, and not finally completed until adult age, they share, during a considerable period, in the functions of the bony skeleton."

In the application of this rule, which seems to have been obtained from observations on the development of the regular bones of the skeleton, some modification is necessary in order to reconcile it with the process as carried on in the development of the maxillary, and perhaps, also others of the irregular bones of the system. Each bone is wrapped separately in a sac of its own, formed by the periosteum. This, I believe, is also true as regards all the bones which go to make up the general skeleton: within this sac the cartilaginous nucleus is developed in the regular bones of the system, upon the model of the future structure. But if we examine the maxillary bones of an embryo in an early stage of its development, we shall be at a loss to find a tissue which identifies the form of the future bones of the jaws. In the inferior maxilla of an embryo lamb, measuring rather less than one inch from the tail to the os frontis, the temporary cartilage, instead of possessing the form of the future structure, which it helps to develope, consists only of a narrow bar or line, which traverses the whole length of the bone on the inner side beneath the alveolar groove of the teeth, from the condyle at one extremity to the symphysis or centre, where the two bones unite. It might very rationally be supposed that this bar of cartilage is the nucleus from whence the whole bone is developed; that it is the centre at which ossification commences, the cartilage increasing in its growth in advance of the development of osseous tissue: but observation shows that this is not the case. In the fœtus to which allusion has just been made ossification has commenced, but not in the bar of temporary cartilage, which lies internal to the ossific matter, from which it is readily separated without carrying any of the newly-developed bony tissue with it, thereby demonstrating that they are not as yet organically connected. External, and surrounding the bar of cartilage, there exists a number of nucleated cells, floating in a fluid blastema. It is these cells which cohere and develope the earliest osseous tissue in the inferior maxilla; but previously to the deposit of the bone earth, a membranous tissue (probably analogous, but certainly not identical with the temporary cartilage in other bones of the system) is developed, most probably from characteristic cells existing, irregularly mixed up with secreting cells: but whether so developed or not, a tissue, membranous in appearance, exists, not as temporary cartilage, a nidus for the nourishment and development of peculiar secreting cells, but to form a central point for the secreting cells to combine in their operations. This cartilaginous membrane is developed in the form of an areolar or reticulated structure, consisting of hollows, more or less large, in which not any osseous tissue is produced. When a section of this tissue is examined in connection with the other tissues, we shall find that the hollow spaces are filled with a serous blastemia, crowded with nucleated cells, but which are lost upon the removal of the tissue, with which they have no organic connection.

These secreting cells at first fall very irregularly upon the surface of the membranous cartilage, and without any order of position, and it appears to me that they yield up their calcareous contents, which is taken from them by the cartilaginous tissue, the emptied cells remaining to form lacunæ. This idea, instead of being opposed to the appearance of the manner in which bone is developed from temporary cartilage, as exhibited in the long bar, where it is precisely as osseous tissue is developed in the more regular bones of the skeleton, receives strong corroboration from an examination of that process. These cells, as they approach near the points of ossification, form rows of unequal length; the probability is, that each row is the result of development from a single cell, when the position in which it exists was in immediate contact with the periphery of the cartilage; that each row corresponds with a single cancellus, that the cells are identical with those which exist in the fluid blastema, beyond the limits of the cartilage, and which fluid probably penetrates the hollows of the cartilage in which the cells are seen, and from which they secrete the calcareous salts, and yield them again to the intercellular cartilage; for it is an observed fact, that the intercellular structure is the first to ossify. Therefore the secreting cells appear merely to act the mechanical part of buckets, obtaining their contents from the fluid by which they are surrounded, conveying and yielding them again to the *apparently homogeneous* intercellular cartilage, themselves remaining attached to the walls as perished cells, of which it may be that the nucleus of each alone is visible in the form of lacunæ.[*]

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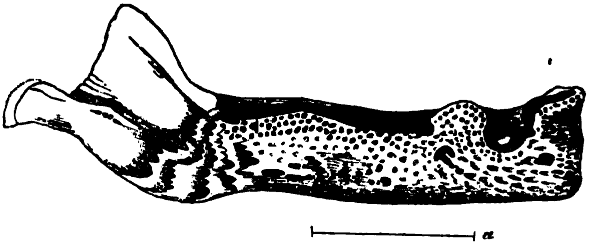
[*] When the author had first penned this paragraph, he feared that it would receive but little sympathy from physiologists; but upon again reading the section in Dr. Carpenter's Principles of Physiology, which treats upon the subject (p. 603), he presumes that the intention of the writer is to convey a similar idea where he says —"The original cells appear to become *flattened* against the walls of the cavity," &c.

In the fœtal sheep, which measures about the length of three inches, it appears that these two apparently distinct origins are incorporated in a firm osseous structure, the cartilage being perceptible at the posterior extremity of the jaw, existing at the edge of the ramus, and the terminations of the condyloid and coronoid processes. At the anterior extremity we find that it is also present in a narrow line, the end of the previously mentioned bar, nd bears in appearance some resemblance, both in position and form, to the pulp of a large incisor tooth. But the membranous cartilage, which differs chiefly from the more usual form in not being a nidus for cell developement, continues to grow and build up the rest of the structure both in form and height. I have already observed that this membranous cartilage is developed in a reticulated form; the areolar hollows are never closed up, but continue open, leaving passages throughout the structure, as in fig. 24; which

FIG. 24.



Lower jaw of a human fœtus about four months old.—*a*, Natural size.

I presume are afterwards penetrated by a vascular system, and so form the canals of Havers. If this be correct, and which the accompanying figure, from a half grown fœtus, seems strongly to substantiate, the development of the maxillary bones differs in this respect also from the mode of development as asserted by Profs. Todd and Bowman, in the "Physiological Anatomy," to be the case with the regular bones of the skeleton, in which "the cancelli, when first formed, are closed cavities. At a subsequent period they appear to communicate, and thus form the cancelli and Haversian canals of perfect bone; a complete net-work of blood-vessels becoming developed within them at the same time" (vol. i., p. 120). Thus we, from this description, perceive that these bones, in their development from temporary cartilage, are obliged to undergo a double process: that is, from cartilage to bone with closed cancelli; then from closed cavities into communicating chambers and canals. But in the bones which I am endeavouring to describe this second process appears to me not to be necessary, the Haversian system and communicating cancelli being the result of the original development, and dependent upon the growth of the penetrating blood-vessels, and, which must be subservient to individual importance, is the thickening or absorption of the walls of each cancelli: thus it appears that the interstitial growth of bone is a continual process of absorption and deposit. An important example of this may be recognised in the absorption of the developed structure in order to make room for the undeveloped permanent teeth, and the filling up with osseous tissue the spaces between the fangs of the same when developed.

The free cells from which this structure is developed appear to me to be originally formed in connection with the periosteum, on the internal surface of which, large nucleated cells may be observed to exist in clusters. Neither can this idea be considered as being opposed to physiological data, since the membrane from which the walls of the cancelli and Haversian canals are developed is but a continuation process of the periosteum; and, moreover, in cases of the removal of bone in consequence of an injury, new osseous tissue has been developed from a small portion of periosteum left, as stated by Prof. Goodsir. If so, then it would appear that the periosteum takes a much more active part in the original development of bone than is usually assigned to that tissue; and this would appear to be more so, if the cells which exist in the temporary cartilage, but which do not originate in that tissue, but are incorporated with it during the progress of its development, are identical with the cells from which the contiguous osseous tissue is developed, and of which I think there can scarcely be a doubt.

The periosteum in this early stage differs from that found on the surfaces of fully developed bone, which latter is closely adherent and seems almost to form a part of the structure; whereas in the undeveloped structure it is more flexible and yielding, being easily moved, appearing (as it were) to roll where pressed over the surface of the bone.

Superior Maxilla.

If we turn from the lower maxillary bones to those of the superior jaw, which, in the regular succession of progressive developement, follows, we find the process is carried on upon the same principle as that which I have endeavoured to describe as belonging to the lower jaw, except that, in the superior, even the bar or line of temporary cartilage is wanting; the whole structure, therefore, is developed from the membranous or extra-cellular cartilage. Of this, the earliest commencement is to be found in an osseous growth commencing immediately beneath the orbital hole; and here, as in the lower jaw, excepting the line of temporary cartilage, the extent of osseous deposit marks, with a slight border in advance, the limit of the development of cartilage. Thickness and solidity progress at the same time as longitudinal growth proceeds; and, moreover, the structure as it increases in thickness sends out processes of a radiating appearance, which causes them to bear no little assimilation to the bones in the crania of certain fish; and this character of osseous growth is carried on until the outer plates of a more solid tissue are reached, which appear to me to be the result of pressure from an increased number of cells; these approximating each other more closely, consequently abounding in a much larger proportion than in the structure previously developed, either in relation to that which is produced from membranous or temporary cartilage.

At the period when the outer walls of the superior maxilla are commencing to ossify, the palatal process exists only in the form of loose flaps, the free surfaces of which overlie the communication existing at this period on either side of the central bar (considered by Prof. Goodsir to be the nucleus of the vomer), and connecting the mouth, nose, and probably the antrum, into one large chamber.

Immediately posterior to these flaps Prof. Goodsir has described two lobes which are each respectively the nucleus of a future palate bone. And it is also his opinion that a similar lobe, situated in the median line of the maxillary arch, is the representative of the inter-maxillary bones: "The median lobule, and its two lateral and anterior appendages, form the anterior division of the embryonal palate. Of these, the two lateral are observed, in the course of development, to contain the nuclei of what are usually denominated the inter-maxillary bones. With regard to the median, it may be stated that, as all the lobules which appear in a soft pulpy texture of the fœtal palate are proved by development to contain the nuclei of all the well-known bones of this region, I am inclined to consider it as an indication of the existence of the rudiment of a bone also." And in a note appended to this passage, in his paper "On the Pulps and Sacs of the Human Teeth," he further says,—"A small cartilaginous body exists in the median inter-maxillary lobule of the child at birth; it is situated in front of the inferior orifice of the naso-palatine canal, and between the mucous membrane and the periosteum. The median lobule exists in the adult palate, and may be felt behind and between the central incisors: median inter-maxillary bones and cartilages exist in certain of the lower vertebrata."

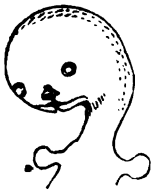
It will be my aim, and I think I shall be able, to second the efforts of those who contend that the inter-maxillary bones, instead of being represented by a cartilaginous lobule, exist in the fœtus as distinct bones,—not only so, but that they ultimately coalesce with the maxillary bones, and remain an integral portion of the jaws throughout life, and hold the incisor teeth.

Nasmyth, alluding to these bones, "which," he says, "were first accurately described by Goethe" (the poet, I believe), remarks that "these bones seem and by some are considered merely in the light of, centre of ossification of those bones (superior maxillary). In animals, however, they are always quite distinct from the maxillary bones, and easily separated from them. And I cannot admit that their early anchylosis to the maxillary bones in man is a sufficient reason for their being described as distinct bones."

By comparative anatomy we learn that the inter-maxillary bones are joined to the maxillary immediately anterior to the canine teeth, which, both in the deciduous and permanent set, invariably retain that position.

The earliest development of these bones commences in the two lateral lobes of the intermaxillary cartilage, the central lobule of which Professor Goodsir considers, in the new-born child, to represent the nucleus of the intermaxillary bones, but which I believe to correspond and be analogous with two similar lobes found in the mouth of the new-born child near where the canine teeth will appear—that is, at the point of union where the intermaxillary bones meet the maxillary; and may be found to be great in those animals where these bones are distinct in the adult: therefore, instead of being the nucleus of the intermaxillary bones, merely repeat those lobules which correspond with the points at which distinct bones unite. In the human embryo of about the sixth week these lobules are not present; while above the horse-shoe lobe a fissure extends into the nasal fossa, as shown in the annexed cut.

FIG. 25.*

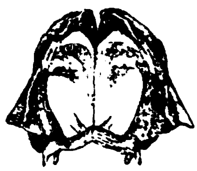


Head of human embryo of about six weeks growth, showing the median line to be separated from the nasal fossa to the chin.

The first deposit of osseous tissue in the formation of these bones, as shown in an embryo lamb of but a few weeks' growth, proceeds at the margins—that is, along the alveolar ridge, and also at the central line dividing the palate; and at this stage the bones strongly assimilate the intermaxillary bones (of Cuvier) in certain fish.

In the human fœtus ef about nine or ten weeks the intermaxillary exist as free and independent bones (fig. 26), not having any attachment with the maxillary—that is, not possessed by other contiguous bones. The palatal processes or plates of the two bones—that is, of the maxillary and intermaxillary—do not at this period lie in the same place; but the posterior edge of the latter passes above the anterior edge of the former in a similar manner, though not to the same extent, as the palatal plates of the palate bones overlap the posterior edge of the maxillary bones.

FIG. 26.



Upper jaw of human fœtus at about the ninth or tenth week, in which the premaxillary bones are seen to be distinct from the maxillary.

It is due, partly, to this overlapping of the bones that the great decrease of the jaws in man over animals is obtained; for although we find the upper jaw, as a whole, range smaller, yet the palatal bones present in themselves a large extent of surface, full two thirds of the palatal processes of which overlap those of the maxillary; whereas, in the lower animals, even where they do overlap one another, it is not to any very great extent.

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* I feel it incumbent upon me to state that I have not the same confidence in the correctness of this figure as in the others which I have appended to these papers—first, because I have only had the opportunity of a single dissection, and that of a preparation which had been kept in spirits, and not well preserved; and, secondly, because my observations do not exactly correspond with those expressed in a figure given in Dr. Carpenter's Manual of Physiology, after Wagner; since the opening which there appears to be the mouth I have considered as the nasal fossa—the larger unmarked lobe beneath to be the lower jaw, the mouth corresponding with the shaded depression between it and a small lobe (the superior maxilla) immediately beneath the deep notch in the centre of the face.

In the fœtus of about twelve or fourteen weeks these bones begin to assume their persistent form and character, the union of the two bones into one commencing at the external alveolar ridge; but, although they commence at this early period, yet they lose not their total mark of having originated in separate nuclei for some time after birth; for, in the jaw of a new-born child, a line of demarcation can be distinctly traced from the posterior edge of the palatal lobe to the anterior surface of the septa separating the lateral incisor from the canine teeth; and, again, on the nasal surface of the same bone, a line is apparent passing from the same foramen, which, on this surface, is divided into two separate lobes, from whence it continues about half-way up the inner surface of the nasal process of the superior maxillary bones, above which, as well as on the facial surface of the upper jaw, no line of separation have I been able to detect after the embryo is of more than three months' growth: and gradually from this stage the two bones coalesce and form one with the maxillary upon their respective sides: but even this much is not accomplished until they have fulfilled efficiently the office required of them in nature, and to which we shall recur in its place.

[To be continued.]

CASES IN CLINICAL MEDICINE,

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In relating the following cases of typhus fever, with their peculiar appearances observed after death, it is not my intention to enter into the consideration of the question as to the identity or non identity of typhus, typhoid, and relapsing fever; yet I may add, that I fully concur in the views which have been so carefully considered, and so cautiously and yet clearly propounded, by Dr. Jenner, of University College. In the course of last year's autopsies in the Fever Hospital, my attention was directed to the appearances of the bladder in a case, by my clerk Mr. Perry, and particular attention was paid to the condition of that viscus by him (after that observation had been made) in the male, and by Mr. Cowan, the other clerk, in the female autopsies.

Case 1.—Mary Dowler, æt. 60 years; ill thirteen days; died April 15, 1850.—Mucous membrane of bladder inflamed, and thickly studded with ulcers, about the size of the finger-nail, with ragged edges; kidneys natural.

Case 2.—Isabella Warnock, æt. 30; ill tweny-four days.—Internal coat of urinary bladder inflamed; and kidneys healthy.

Case 3.—Isabella Warwick, æt. 30; ill twelve days.—Inner surface of bladder covered with brownish-red ecchymosed spots; kidneys healthy.

Case 4.—Helen Provan, æt. 36; ill about thirty days.—Vascularity of mucous membrane of bladder towards the neck, but no ecchymosis or ulceration; kidneys healthy.

Case 5.—Mrs. Anderson, æt. 40; ill eighteen days.—Bladder very thin, and easily ruptured; urethra inflamed; internal surface of uterus much congested; kidneys flabby.

Case 6.—Agnes Short, æt. 15; ill fourteen days.—Kidneys healthy in structure; internal surface of the pelvis, and also of both ureters, much congested apparently with venous blood; mucous coat of bladder slightly vascular, and presenting several patches, raised above its level by effusion of yellow coagulated lymph into its sub-mucous areolar tissue.

Case 7.—Eliza Dawson, æt. 27; days ill uncertain.—Mucous membrane of the bladder slightly congested; kidneys soft in texture; urine, on the day before death, of a deep red colour, slightly acid to test-paper, of sp. gr. 1·021; gives a flocculent deposit on standing a short time. On the day previous to this it was also high coloured; had a sp. gr. 1·021; and deposited a copious precipitate of phosphate of lime mixed with triple phosphate (Microscopically examined.)

Case 8.—Alice Cowsland, æt. 18; ill twelve days.—Bladder congested, particularly towards its neck, as also both ureters; kidneys healthy.

Case 9.—Mary Hamilton, æt. 28; ill twenty-six days of continued fever, complicated with pleuro-pneumonia.—Mucous lining of small intestines very vascular; kidneys congested, as also the internal surface of their pelvis, and adjoining parts of the ureters; bladder hard, and contracted to the size of a hen's egg, containing only a small quantity of thick, muddy, mucous matter; inner surface of it presented a number of brownish coloured patches, consisting of minutely injected blood-vessels.

Case 10.—Alexander Anderson, æt. 20; ill eighteen days.—Mucous membrane of urinary bladder highly vascular, and one or two small ulcers on its surface.

Case 11.—John Ross, æt. 44; ill nineteen days.—Kidneys enlarged and very much congested, the pelvis of both slightly vascular; ureters healthy; bladder in a state of great vascularity over the whole surface of the mucous membrane, and two small spots at the fundus almost ulcerated. In this case the urine was alkaline before death.

Case 12.—Alexander Watson, æt. 25; ill eight days.—Increased vascularity of inner coat of bladder; kidneys congested.

Case 13.—James Mathieson, æt. 27; ill eleven days.—On laying open the bladder there was found a small quantity of turbid urine in it; vascularity of mucous membrane, more particularly at the fundus, where it was in a state of great hyperæmia, presenting a bright scarlet appearance; kidneys congested.

Case 14.—John Swinnie, æt. 31; ill fourteen days.—Inner coat of bladder much inflamed, especially towards the neck, and covered with numerous ecchymosed spots, some of which had gone on to ulceration.

Case 15.—Denny MacGroury, æt. 33, ill eight days.—Congestion of the mucous membrane of the bladder.

Case 16.—Joseph MacFarlane, æt. 56; number of days ill uncertain.—Bladder presented, more especially near the neck, several highly vascular patches, was much contracted, and contained about a tea spoonful of thick white fluid; kidneys large and flabby.

Case 17.—Norman Anderson, æt. 54; ill seventeen days.—Bladder contained about two ounces of muddy urine; inflammation of mucous membrane; prostate enlarged; kidneys much congested.

Case 18.—Patrick MacGuity, æt. 15; ill fifteen days.—Mucous membrane of bladder pale, except towards the neck, where there was a slight degree of vascularity; kidneys healthy.

Case 19.—William Brown, æt. 31; ill fifteen days.—Bladder healthy; both kidneys large and flabby; the internal surface of the pelvis and ureter of each being vascular.

Case 20.—Robert Beattie, æt. 37; ill twenty days.—Bladder contained a small quantity of muddy urine; its entire mucous surface was highly vascular, and towards the neck there were two small round ulcers; both kidneys soft, and on laying open the pelvis and ureter of each, they were found much inflamed.

Case 21.—David Muir, æt. 15; ill twenty-seven days.—Several small ecchymosed spots on the internal surface of the bladder; kidneys vascular.

Case 22.—William Lockart, æt. 22; ill twenty-three days.—The bladder was very much contracted and its parietes thickened; the mucous membrane was congested, and at its fundus there was one small ulcer with ragged edges; kidneys healthy.

Case 23.—Margaret MacMann, æt. 14; ill forty-five days; death from pleurisy after typhus.—Inner surface of bladder covered with numerous small circular spots of a bright red colour.

Case 24.—Terrance Sterry, æt. 54; ill fourteen days.—Bladder on anterior, but more particularly on its posterior aspect and around the neck, presented on its internal surface large ecchymosed spots and blotches of a dark colour, and was very much congested. Both ureters, throughout nearly their entire extent, were studded with patches of a dark brown colour, similar to those in the bladder, but softer and more approaching to ulceration; kidneys soft and congested.

Case 25.—Mrs. MacCormac, æt. 32. Scotch, married; one year in Glasgow. Admitted 19th August, 1850. Present illness commenced eight days ago with a rigor followed by the usual symptoms of pyrexia after the exposure to the contagion of typhus. On admission the patient was in a very depressed state, and has fainted twice within the last six hours; eyes very much suffused; pulse 104, weak; bowels open; tongue dry, covered with brown fur, and fissured transversely in the centre; copious dark-coloured eruption of typhus on the body. Habeat Vini Rubri, ℥vj.

August 24th.—Patient has rather improved in strength since admission, though she has a large bed-sore over sacrum. Complains of severe cough, accompanied with copious frothy expectoration; loud bronchitic rales heard over the whole of the chest; pulse 120, full; tongue dry and fissured.—To have half an ounce of squill and antimonial mixture every third hour.

26th.—Has become much worse: extremities are somewhat swollen, and the left leg is acutely painful on being touched; eyes suffused; pulse 130, very weak. Habeat Spin. Vini Gallici, ℥vj.

30th.—Has been slightly better for the last three days; but this morning was reported to have passed a very bad night. The urine, which has always been scanty, was quite bloody, and she had severe pain in the lower part of the abdomen. On examination, the bladder was found much distended, and on the introduction of a catheter a large quantity of bloody urine was withdrawn: the pulse beat 130, but was very small; tongue fissured and dry; eyes suffused, and countenance very anxious—Applicetur fotus abdomini, et habeat Solutionis Muriatis Morphiæ, gtt. xl. statim.

12 P.M.—A catheter was again introduced, and a very large quantity of blood was drawn off. No pulse at wrist.

31st.—Died at nine A.M.

Sectio cadaveris, forty-eight hours after death.—The bladder was found considerably distended with bloody urine. Its external surface was vascular, and the peritoneal coat could easily be detached from the muscular. Its mucous membrane, throughout its entire extent, was highly vascular. At some points there were rough prominences, of a deep black colour. There were no large ulcers, but numerous small pits, denuded of mucous membrane, were observed. The fluid contained in the bladder was examined. It had a strong urinary smell, was of a red colour, and had a specific gravity of 1,025. Under the microscope numerous blood discs were discernible. On the addition of nitric acid, a dirty brown coagulum was formed. The right kidney was enlarged and friable. There were numerous white granules aggregated in different portions, and a slight vascularity in the ureter. The left kidney was also enlarged and soft, but contained no granular deposits. It was much congested, and the tubuli uriniferi were unusually large, and shooting into the cortical substance.

Simple congestion of the bladder.	10
Ecchymosed spots.	7
Ulceration	6
Congestion of the ureter and pelvis of the kidney alone.	2
	—
	25

From the circumstance of these observations having been limited to a period of six months, it must be evident that the bladder is frequently the seat of disease in typhus fever: although the number of typhus inspections was not noted, yet they could not have exceeded fifty, and they are more likely to have been under forty.

Dr. Jenner relates one case of this affection in typhoid fever; and the late Dr. Perry, of this city, who investigated fever so minutely, observed this affec- also. Rokitansky, in vol. ii. p. 226, of his Pathological Anatomy, says, "Secondary exudative processes are by no means as unusual as is commonly thought. They occur during the course of exanthematic diseases, especially of scarlatina and variola, during typhus as a symptom of an anomaly and degeneration of the typhous process, in consequence of absorption of pus in the blood, and associated with exudative processes in other mucous membranes.

The affection gives rise to a more or less coagulable fibrinous exudation of varying thickness, or to a viscid, gelatinous, discoloured, purulent or sanious product; it rarely involves the entire bladder, or even a large portion of it, but is generally limited to round spots or striæ.

"The mucous membrane presents the most various degrees of injection and redness, varying from an almost imperceptible change to complete saturation of some portions, with considerable thickening and tumefaction, and an induration proportionate to the coagulability of the deposit. According to the character of the process, the diseased tissue becomes softened, and converted into a pale or dark reddish brown pulp, or a gelatinous, purulent, or sanious mass; the local process not unfrequently assumes a gangrenous character, and the tissues are then resolved into a putrescent sanies, or become detached in the shape of an eschar. As the exuded matter coagulates, it not unfrequently takes up urinary sediments, or these are subsequently deposited, and give rise to an encrusted appearance of the coagula or of the bladder.

We see the typhous process occurring in the vesical mucous membrane under various forms:—

"*a*. It is rarely in the genuine shape, *i. e.*, characterised by a product resembling that formed in the intestinal follicles, and in the mesenteric glands.

"*β*. It is frequently met with as a degenerate exudative process, in the shape of scattered insulated and soft exudations.

"*γ*. It is seen degenerated to an exudative process, resembling a gangrenous eschar. Opportunities of observing the complete metamorphosis of the products, and their subjacent strata, in the shape of softening, fusion, and separation, are but rarely offered, as the general disease commonly proves fatal prior to these events."

The question then arises, whether does this complication of vesical congestion, exudation, and ulceration, attend other diseases, and is caused by the condition of the urine being so abnormal as to create unusual irritation of the mucous surface along which it passes; or is it an affection which is but a part of the typhus. I have examined the urine of typhus patients chemically, as well as microscopically, without finding anything abnormal, beyond an increase of the nitrogenated elements of urea, uric acid, and epithelium. These are not likely to be so highly irritative as to produce effects such as we have detailed in these cases.

I therefore quite agree with Rokitansky that it is a typhous process,—does not arise from local causes, and bears the same relation to typhus, that ulceration of Peyer's glands does to typhoid fever. Mrs. MacCormac's case (25) must convince us that this is no trifling disease; that in the course of typhus the pubic region should be daily pressed and percussed, with a view to detect the presence or absence of a feeling of tenderness, which when there would require fomentations, leeching, frequent catheterism, &c.

ASPHYXIA FROM CARBONIC ACID GAS.

Dr. W. T. Parker, who reports this case, states that he was called at 6 A.M. to two female servants, found asphyxiated in their sleeping room; mother and daughter. The daughter was in bed, and quite dead, hough her body was still warm and flexible. The mother was found crouched down in the corner of the room most remote from the bed, and under a window; entirely unconscious, and pulseless; extremities cold, pupils dilated and sensible, jaws firmly locked, countenance livid, lips pale; the only sign of life being a slight impulse of the heart felt by the hand. Cold water was dashed on her face and breast immediately, and caused slight respiration. The jaws were forced open, and some rum poured into her mouth excited a cough, and power of deglutition. Large sinapisms were applied to the extremities, friction was used, and hot brandy and water with infusion of capsicum was administered. This treatment was continued with a prospect of success till 7 A.M., when the coldness seemed to increase, the respiration was less distinct, the trifling pulse which had begun to be felt was marked by subsultus, general spasms seemed to be commencing, and the abdomen, which was at first of natural size, became greatly swollen; not the least indication of consciousness had then appeared. Venesection ℥vj. The blood seemed very fluid, and respiration became more free, but symptoms of sinking made it necessary to tie up the arm. A stimulating enema was now given, causing free vomiting with easier respiration, and a thorough alvine evacuation. The sinapisms were renewed, and cold water freely poured on the head. This treatment was continued perseveringly for three hours, the least relaxation of effort causing a return of bad symptoms. At 9½ A. M. the pupils gave indications of sensibility, and the pulse could be felt. At 10 o'clock, she could hear, the swelling of the abdomen was gone, and respiration was regular. At 12 o'clock she recognised persons, and during the day she gradually recovered.

The cause of this accident was carbonic acid gas, which escaped from a joint in a furnace flue, which passed through their room (a basement) to the chimney; their bed being directly under the leak, so that the gas was poured directly upon the two women, as water would have been from a spout. The daughter was found turned upon her face, which was very dark from the settling of the blood. Copious epistaxis had occurred, and the bladder had been evacuated; there was no protrusion of the tongue, but a slight contraction of the brow, and post-mortem rigidity soon became strongly marked.

They went to bed at 9 P. M., and the mother remembers that, soon afterwards, her daughter complained of headache, and "a smell of gas," and that she rose and closed the door.—*American Journal of the Medical Sciences.*

MEDICAL GAZETTE.

FRIDAY, MARCH 7, 1851.

In a former article we quoted those parts of Dr. Robinson's letter to Sir George Grey which bore on the present state of the medical profession. We now propose to address ourselves to the consideration of the remedies suggested by the writer.

The present heterogeneous state of the profession must be taken as a *fait accompli*,—one which cannot now be altered or even modified by any act of the legislature, without retrospective injustice. The existing body of legally qualified medical practitioners must be clearly defined, so that the public may at once be enabled to distinguish them from the herd of unprincipled pretenders who now practise under assumed medical titles. The mode of doing this, and the machinery by which it may be brought about, are thus stated:—

> "1. That all persons possessed of legally recognised diplomas or licenses to practise medicine in any of its branches, be requested to exhibit and register the same, after the following manner, within a given period.
>
> "2. That the Superintendent Registrars of Births, &c., be directed to cause a circular to be sent to every presumed medical practitioner resident within their respective districts, informing him of the time and place appointed for such registration; and that in cases where it is declared impossible for any medical practitioner to attend in person for that purpose, he shall nevertheless forward his diplomas, together with a written declaration that he is the person described in these documents.
>
> "3. That the date of each diploma thus presented, the title of the body conferring it, and the name and residence of the recipient, be entered by the Superintendent Registrar in a book provided for the purpose, and a copy forwarded to the Registrar-General o Births.
>
> "4. That from these returns a general register of the names and qualifications of the persons constituting the medical profession be prepared under the direction of that officer; and that the insertion of the name and residence of any medical practitioner in that list shall *primâ facie*, and in the absence of positive proof to the contrary, be received as legal evidence of his possession of a due license to practise medicine in England; and such persons shall alone be considered by the law and Government as forming the recognised medical profession of this country."

Let our readers contrast this equitable mode of organizing the profession with the autocratic principles on which the subject is dealt with by the proposed Institute Bill. According to this Bill, after a certain day none will be recognised as legally qualified medical practitioners except members of the proposed new College, and those who hold the diplomas of the English Royal Colleges of Physicians and Surgeons. Dr. Robinson's proposition does away with all feeling of jealousy, for he would include without extra fees Scotch and Irish as well as English practitioners. It therefore metes out equal justice to all, and the plan of enrolment appears simple and practicable.

So far with regard to the *present* state of the profession. We will now look to its proposed future constitution. Dr. Robinson suggests the institution of a General Board, acting for the whole kingdom, and in intimate accordance with the Executive Government.

> "A General Board or Council, for the government of the medical profession as a whole, constituted after the manner proposed in Sir James Graham's Bill on this subject, *i. e.*, composed of a number of physicians and surgeons appointed by their respective Colleges, aided, if required, by eminent persons not members of the profession, and presided over by a responsible Minister of State, would, in the first place, be enabled to form regulations, and prescribe a course

of study and a series of examinations, through which, as through a common portal, all future candidates for a license to practise medicine should be compelled to pass."

This plan would undoubtedly insure, as far as possible, that general equality of education and examination which has been so eagerly sought after as the ground for establishing reciprocity of practice in the three kingdoms. Such a Board would superintend thepublication of a correct list of legally qualified practitioners, and would serve as a medium of communication between the medical profession and the Government, as well as the public.

Dr. Robinson furnishes us with no details respecting its constitution; but we apprehend there might be some difficulty here, unless the Colleges and Universities of Scotland and Ireland were equally represented with those of England. The introduction of the lay element into the Council might also be obnoxious to the medical members of the Board. To give this proposition a practical bearing, we ought to know—of how many members such a Board is to be constituted, and from what Colleges or Universities they are to b *selected* or *elected*. No one would object to the creation of such a CIVIL MEDICAL DEPARTMENT as this proposition involves, provided it could be practically carried out; and we feel confident that a Board thus constituted of well-informed medical men would be of the greatest service to the public and profession, by taking upon itself the medical departments of the Poor Law and Lunacy commissions, as well as of the General Board of Health. We are now suffering from the evils of the almost entire lay administration of these important branches of the public service; and but for the pressure of political affairs, the necessity for a change of the present system would have been long since recognised.

With regard to medical education, the suggestions contained in this pamphlet may not meet with the concurrence of all, but they appear to us to be sound and reasonable. Among the present evils we find enumerated—

"1. The inattention of some examining bodies to the literary and scientific attainments of the candidates for their diplomas.

"2. The confused mixture of the literary and scientific with the purely medical or technical portion of the examination for a medical diploma; whereby the attention of the candidate is, in a great measure, occupied by minor and ancillary studies, at a moment when all his mental energies ought to be fixed upon those important practical subjects, a perfect knowledge of which is so essential to his future success.

"3. The apparent neglect of the higher and more practical departments of medical science, by the undue prominence thus given to its secondary and collateral branches.

"4. The recognition of attendance at provincial schools and hospitals, as all-sufficient for the general and professional instruction of the future practitioners of medicine."

The proposed remedies are thus plainly stated:—

"1. That all future candidates for admission into the medical profession shall undergo three separate examinations; the first, or matriculation examination, being intended to test the extent of their *literary* attainments: the second, their acquaintance with *general science;* and the third having reference solely to their knowledge of the sciences directly connected with the various duties of the medical practitioner.

"2. That the mode of conducting these examinations, the nature of the subjects comprised in each, and the regulations affecting the age, &c. of candidates, be uniform throughout the Empire, so that the licentiates of the General Board may be received on equal terms throughout the whole of the British dominions.

"3. That in future medical curricula and examinations, the necessary steps be taken to ensure each candidate's possession of a due knowlege of General Pathology and Hygiene, and of the various public duties which the members of the Profession may be called upon to discharge—subjects of great and increasing importance, but to which the attention of the medical examining bodies has hitherto been very inadequately directed.

"4. That during his period of professional duty, every candidate for a license to practise Medicine shall devote at least one year to attendance at a British or Foreign *Metropolitan* Medical School and Hospital."

Dr. Robinson, in anticipation of the objection likely to be taken to the last proposition, observes:—

"Notwithstanding prepossession in favour of provincial schools during the earlier periods of medical study, I cannot resist an apprehension that a medical education, conducted wholly in a provincial town, will not ensure the expansion of ideas and correctness of judgment in general matters required to gain for a professional man the respect and confidence of a well instructed and rapidly progressive public. And both for the improvement of the faculty of comparison, so important to a medical man, and in order to weed the mind of injurious prejudices and contracted views, a year's residence in a metropolis by each student must, I think, prove highly advantageous to all parties, by contributing to the respectability of the profession; while the time thus spent, will, if I mistake not, constitute an epoch in the life of the medical practitioner, from which he will, in after years, date the correction of many an error, and the acquisition of many a sound principle."

We quite concur in the view that a portion of the time devoted to medical education should be passed at a metropolitan hospital, and think that much mischief was done by the relaxation of this rule. The knotty questions regarding medical titles, and a power of expulsion for misconduct, are in a measure solved by the fact, that all would be examined for general practice by one Board of Examiners, and all would be amenable to the General Board. Dr. Robinson regards the preservation of the Colleges of Physicians and Surgeons as indispensable to the well being of the profession, and he denounces the creation of a new College on the following grounds:—

"The establishment of a College of General Practitioners, as proposed by a certain party in the Profession, would, I am satisfied, prove equally objectionable to the great body of provincial surgeons; as it must tend to place them in a permanently subordinate position, and completely debar them from the possibility of ever rising to the higher Professional honours.. Nor will any such further addition to the existing Medical Corporations be at all necessary, if the Colleges of Physicians and Surgeons meet in a proper spirit the exigencies of the present crisis. In the expectation of obtaining an amended charter by which it would be constituted the College of Physicians of England, the former body has, if I mistake not, already signified a willingness at once to admit to its membership, those graduates of recognized Universities, who may *bonâ fide* practise as Physicians in this country. It has, moreover, for some time adopted a liberal rule, in modifying its examination in favour of Medical Practitioners of a certain age, which might be judiciously extended so as to comprise a greater number of the more experienced members of the Profession. And if the College of Surgeons has not yet conceded all the reasonable demands of its members, the latter may indulge a well-founded hope that under a system of Medical organization like that here proposed, by which the connection of individual Practitioners with this College would for all legal purposes be purely voluntary, the governing Council of the latter could not avoid appealing more directly than heretofore to the sympathies of the majority. To what extent the principle of popular representation should be carried out in the constitution of the governing Councils of such institutions is a difficult question to determine satisfactorily. Two opposite evils are here to be dreaded,—viz., the prevalence of an idea that the posts of honour in the profession are to be attained by the vulgar arts of agitation, and the toleration of the irresponsible despotism of self-elected cliques. Nor can I perceive any escape from the dilemma, but in the partial recognition of the conflicting principles of *election* and *selection*, a certain number of seats in the governing Council being filled by the chosen representatives of the majority, and the remainder selected from the general body by the existing members of the Council."

With respect to the warmly-contested question respecting the admission of gentlemen practising pharmacy into seats at the College Council, the writer of the pamphlet suggests a *mezzo termine;* but it will, we apprehend, be found more easy to make the suggestion than to carry it out practically. Dr. Robinson thinks that, in adopting this rule of exclusion, the College Council "has not sufficiently discriminated between the great mass of country surgeons, who merely supply their own patients with the requisite medicines, charging also and chiefly for professional attendance, and the comparatively small number of practitioners to be found in London and a few large towns, whose remuneration is derived solely from the sale of medicines, and who are thus, *pro tanto*, in a social position inferior to that of the humblest village surgeon, though deriving ten times the amount of income from this commercial source." It is suggested that the one insensibly merges in the druggist, while the other is doing no more than a London consulting surgeon, who employs certain necessary instruments and dressings. Thus the writer would exclude from the College Council all those who practise wholly as apothecaries, or who derive their remuneration *solely from a charge for the drugs supplied;* but he would admit the class of provincial surgeons. We have reason to believe that this question has been already fully discussed in all its bearings, and it has been found quite impracticable to lay down such a distinction as that drawn by Dr. Robinson. To act justly upon any rule, the terms must be clearly and distinctly defined. Apothecaries are, of course, not admissible to the College; and those who are surgeon-apothecaries do not practise in the latter capacity only; they exercise their privileges as surgeons; and except by arbitrary selection, which would always give rise to loud complaints, we do not perceive how the College can act upon the suggestion of admitting some and rejecting others.

The following remarks on the Universal Suffrage and Liberty and Equality doctrines, which have been of late years turned into professional grievances, are worthy of attention :—

"I have hitherto abstained from noticing the extreme opinions on the subject of Medical Reform, entertained by a few of its more ardent advocates. Under the plea of insuring unity, these gentlemen propose to abolish the existing powers of the Colleges of Physicians and Surgeons, in order to reduce the members of the profession to one dead level. I have previously advocated the equality of all properly licensed medical practitioners in the sight of the law; but this will probably fail to satisfy the dissentients alluded to. It certainly seems strange that opinions, which, when professed by the poor and ignorant, are not more zealously condemned than keenly ridiculed, should be supported by even an insignificant section of a body of educated and experienced men. To suppose that professional equality can be enforced by Act of Parliament, is to betray a forgetfulness of human nature, as complete as that manifested by the misguided men, who would attempt to obtain, by similar means, moral, social, intellectual, or physical equality. Let all men entering the profession start on equal terms, as far as length of study and severity of examination can be secured by legislative enactments. But, thenceforth, the great distinctive features of disposition and mental power, which constitute the peculiarities of individual character, will not fail to make themselves felt, with or without the permission of the law, so as to assign very different places to the various competitors in the race for professional fame, wealth, and honours."

We trust that this letter will receive that attention from the Government which it deserves. It attempts to reconcile and adjust differences, without offending the prejudices or feelings of any section of the profession. The destructives will not, of course, be satisfied with it, nor with any thing short of the abolition of all existing institutions; and they may effectually, for a time, keep medical legislation in abeyance, by pertinaciously demanding what it would be impossible or unreasonable to concede.

ON A

NEW EPIDEMIC EXANTHEM,

A Clinical Lecture delivered at the York Medical School, Feb. 25th, 1851,

BY THOMAS LAYCOCK, M.D.

Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine at the York Medical School.

Description of the Exanthem—its general prevalence—illustrative cases—Furuncular, Ecthymatous, and Carbuncular forms—Pathology—Facts from Alibert—of equine origin?—analogy of Farcy—of epizootic origin?—the Brandboil, Anthrax, and Pestis Carbunculosa—origin of the latter as an epizootic—its varieties—its relations to the Erysipelatous group of Fevers. Is the prevalent epidemic modified Anthrax Fever?—Origin of Influenza and Puerperal Fever in the Cow—Hidden relations of epizootics to epidemics—the Vaccinia and "Distemper," and others—Nature and probable epizootic origin of the Exanthem—Treatment.

AMONG the cases which have interested us at the Dispensary lately, you will remember certain individuals who had a furuncular or ecthymatous affection. It has been a very general observation that boils are and have been unusually prevalent of late, not merely amongst the patients who are treated at the medical charities, but in private practice as well. I gave you a promise some time ago that I would collect some special information for you about these epidemic boils. I have made inquiries with that view, and the result is, that I think we have a *new epidemic exanthem now prevalent*—new at least in this country, and therefore worthy our special notice. It is about a year and a half since I first observed this disease amongst the patients and domestics of a large private asylum, which I visit professionally. I was struck at the time by the unusual prevalence of boils in that institution, but particularly by the circumstance that they were not limited to the patients, for even the children of the matron, as well as the servants and the attendants, came in for their share. It is no unusual circumstance for the insane to suffer from furunculi, or even carbuncles; but they do not all suffer alike, the disease being limited to the enfeebled and the cachectic. Now in this instance the robust suffered as well as the feeble. Concurrently with the boils there was an ecthymatous affection of the skin in some of the cases; and in one or two I think there was ecthyma only. The disease did not prove fatal in any case, nor was it any-thing more than troublesome and painful to the majority. It ceased to excite my attention, and had passed from my memory, until the frequent recurrence of the disease in practice led me to renewed thought and inquiry. I am now satisfied that the affection is epidemical, and has spread over a great portion of England. I have certain information as to the prevalence of the disease so far as Shropshire on the one side, and throughout Yorkshire and in the North of England on the other; and if inquiry were generally made, and the attention of the profession directed to the disease, we should probably find that the whole island is more or less pestered with it.

The disease is mainly characterized by a succession of boils on various parts of the body, of various sizes, from a bean to a walnut. First there is what the country people hereabout call a "pleuk;" that is to say, a small hard pimple, with perhaps a vesicle or circlet of vesicles on the top. This itches; the top is scratched off; when it is found that there is a small tumor in or below the derma, which becomes larger, inflamed, very painful, and at last suppurates, with an erysipelatous blush about it, and in bad cases with phlyctænæ. A number of these occur in succession on various parts of the body, but principally on the fore-arm, leg, and nates. Occasionally there is a vesicle only, which quickly puts on the appearance of ecthyma; and in one case at the Dispensary (in a child), there was just one large livid-looking phlyctæna, as large as a crown-piece, a solitary monster, of a startling aspect, so like gangrene it looked. Sometimes there is a solitary boil, large, angry-looking, and mischievous as a carbuncle. An aged lady, who came under my notice, had one of these on the mons veneris; and sometimes even the minor specimens are not to be distinguished from carbuncles. Very often after they have sloughed and healed they leave an indurated condition of the skin and subcutaneous cellular tissue, of a very unpleasant kind.

The eruption, whatever form it may assume, has a definite period of duration, and continues for from two to six weeks. The furuncular form is not always more chronic than the ecthymatous, but for the most part; the exceptions being those cases in which the patient is cachectic. It is not, however, as I have previously remarked, dependent at all upon a cachectic condition, for I have seen it in robust men and in very healthy children. Nevertheless, the cachectic suffer more from the disease, and perhaps they suffer also in greater numbers; but of this I have no certain information. In some instances you may clearly trace the localization of the boils to some local cause; for example, a crop will break out round a blister, or round another boil, if it be poulticed much, or round a burn. I have a case in which they have occurred on the neck, thorax, and upper arm of a young woman who has irritated her throat by the inunction of the iodide of potassium ointment; and another, in which a chronic psoriasis seems to have been the exciting cause. I suspect that any local irritation of the skin is sufficient to induce the disease in an individual within the sphere of the epidemic.

A medical friend tells me that he has suffered very severely in his own person from this "little plague," as he expressively terms it. He says, "one of my boils had the base of the cone occupied by a small slough, just as occurs in a carbuncle; there was also a broad surface of brawny hardness, and the absorbents were inflamed above and below." He found the boils to be extremely painful, and has had nearly a dozen in such a situation that he says that his "os sacrum even now reminds him of a raised model of Switzerland, so irregular is the surface." His attack was ushered in by constipation, with a coated and dark tongue, quite brown in places like that of typhus.

Mr. Hutchinson, the acting house-surgeon of the hospital, has communicated to me a short notice of eight cases lately treated in the house, which illustrate principally the ecthymatous form:—

1. A farm labourer, aged 18, admitted for an eczema impetigenoides affecting the popliteal spaces, shortly after admission suffered from the eruption of a large crop of pustules in the same region, interspersed with boils. One of the latter left a troublesome sore on the malleolus externus. When nearly well, he had acute rheumatism (of which he had an attack a few months previously to admission), and this was followed by a recurrence of the impetigenoid eruption.

2. A married countrywoman, aged 50, was admitted with an eruption of ecthyma over both thighs, the labia, nates, and back. On the back and nates were several large and painful boils. She had been out of health for some time, had foul tongue, complete anorexia, cough, and bronchitic affection.

3. A man, aged 40, an out-patient, phlegmatic and strumous, in his ordinary health, had a large indurated boil on the left arm, very painful, and suppurating very slowly. When getting well, several others of a similar character appeared over the hand and arm. The brawn-like, indurated, and little elevated condition of the affected tissues, gave the disease the character of small carbuncles.

4. A lad, aged 16, a farm labourer, ruddy and robust, applied as an out-patient, with an eruption of ecthyma interspersed with small boils, which commenced near the knees and spread upwards, covering the thighs, nates, and sides of the back. His tongue was coated, and his pulse a little quickened; otherwise he was in fair health. The eruption disappeared in about three weeks, leaving purple blotches and scars.

5. A young woman, aged 20, was an in-patient with inflammation of the bursa of the patella, which was treated by successive blisters. An eruption of boils commenced around the blistered surface, spread over the thighs and legs, and then attacked the elbows. Impetigo was scattered over the face and chest. This crop disappeared, and in about ten days another succeeded.

6. A man, aged 35, was an in-patient for a severe contusion of the left knee. When recovering, a copious eruption of very painful boils broke out over the thigh and leg, and a few on one arm. One situate just above the knee resembled a carbuncle. He was somewhat cachectic, and considerable fever, pain, and restlessness accompanied the eruption.

7. A man, aged 37, in the hospital, cachectic, with suppurating inguinal glands, had, after admission, an impetigenoid eruption, with sloughing pustules, of such a size that they might be considered as small boils.

8. A man, aged 26, in the same ward as the last case, a highly strumous subject, with purulent ophthalmia, had several large and extremely painful boils on the upper extremities.

This epidemic has gone through the York Asylum (in common with others); and Mr. Metcalfe, the resident medical officer, has kindly supplied me with some particulars. It affected patients and domestics of both sexes, of all ages, and of each class; all, however, being alike well fed and comfortably clad. "Without feeling ill" (I quote Mr. Metcalfe's description), "a slight uneasiness has been felt in some part, attracting little notice for one or two days, accompanied by a slight diminution of appetite, feeble pulse, pale but not coated tongue, and irregularity of the bowels. This has been followed by a slight or decided flush of the uneasy part, at first irregular in form and size, then deepening and assuming a circular or oval figure, having an elevated centre. If alterative aperients and tonics do not dispel these appearances, a varying amount of febrile action terminates about the fifth or sixth day from the onset in an unhealthy boil,—in some cases solitary, in others, one of five or six, never more, the situation of these being the arms, legs, spine, head, nates, mons veneris, &c. Two cases present complications: a male, having the finger and back of the hand appearing as if severely scalded, from the presence of three large vesicles: two of these contained serum of an ordinary appearance; the other a dark fluid. All redness subsided in two days, leaving only the vesicles. One foot, in this case, was similarly affected. In the other case (a female), in addition to a large boil on the spine, the legs were covered with small bright red spots, occasionally running into a large patch of darker colour; none of them being elevated."

From these and my own observations we may state, I think, that this eruptive disease appears under several forms:—1. There may be a solitary boil; such was the case of the old labourer who came from the country to the Dispensary a week or two ago, with a large boil on the point of the elbow, phlyctenoid, and presenting inflammation of an erysipelatous character, extending down the arm to the wrist, and upwards towards the shoulder. 2. A solitary phlyctæna, or several. 3. Several boils, varying in size and character up to carbuncles, without any other cutaneous disease. 4. Boils, with ecthyma, eczema, or impetigo; but much more frequently with ecthyma. 5. The boils differ, in leaving or not leaving behind them an induration of the skin and subcutaneous tissue. How long the disease has been epidemic is uncertain. I certainly observed it more than eighteen months ago. Its progress is slow, for the inmates of a house do not suffer from it in rapid succession; so that only one or two in a family are affected at one time, except where the family is large. Out of sixty or seventy inmates of the private asylum in which I first saw it, there were not more than 10 per cent. affected at once; and in some the disease was so trifling, that it would not have been noticed under ordinary circumstances,—perhaps one or two small boils, and no more. The country folk, I may say, think it is contagious.

We have now to inquire into the pathology of this epidemic, and our only present source of information is the recorded experience of the profession. It has attracted so little attention, however,—in this country at least,—that I am not aware the disease has been described or noticed by any one. On the continent something analogous seems to have been prevalent from time to time, so that continental books may afford us information. Alibert's monograph on the Dermatoses contains some interesting statements, which have given me a clue, I think, to a probable explanation of the epidemic—or if not that, to such facts as should be borne in mind when investigating it for the future. Alibert nowhere mentions "furoncles" as being epidemic: he only observes that they are the most prevalent in hot and moist seasons, and in hot marshy districts. Yet he accidentally mentions circumstances which are of importance to our inquiry, as we shall soon see. An experienced army surgeon, who had served during many years in the French cavalry, told Alibert that boils were quite common amongst the cavalry soldiers, and that he had often known a great number to be attacked at the same time. This affection, he said, took place under all circumstances, in whatever state of health the soldiers were, and affected neither their appetite nor their spirits; or caused any other inconvenience than what resulted from the pain. As the boils were principally on the nates, Alibert concludes at once that they were caused by the continual compression and friction of the part against the saddle. This, of course, might be an *exciting* cause, but as *all* cavalry soldiers are not pestered with boils on the nates, nor were the French cavalry referred to at *all* times, why did the exciting cause act? Alibert goes on to mention the case of an old cossack, who had about a hundred boils on the nates and legs; but what was very remarkable, he says, and could only be attributed "*sans doute*" to the extreme "*sympathy*" which connects all the corresponding portions of the cellular tissue, boils appeared consecutively or simultaneously on other parts not exposed to the mechanical causes mentioned, as the back, neck, face, arms, legs, feet, &c.; and then, immediately forgetting that convenient "sympathy" (by which, by the by, we doctors explain everything that we do not understand) asks, Was it the ammoniacal atmosphere of the stables that caused them, or the habitual exhalation of the dust from the high roads, which, *as it is asserted*, causes the frequent boils observed amongst grooms and drivers who are continually employed about horses? It is curious to observe how his theory of *sympathy* leads him away from the one general fact contained in all the facts he relates—namely, the relation between the boils and the occupation of the sufferer—between the man and the horse. We have the compression of the saddle, sympathy, the ammonia of stables, the dust of the high roads, but not a suspicion that the disease *might* be communicated by their horses to the soldiers, the cossack, the grooms, and the coachmen.

But, is it probable that a furuncular disease could so originate? you will ask. I think it is. Horses are affected with a highly contagious disease, which is often communicated to man,—I mean glanders; and it is worthy remembrance, that the skin-disease produced by it is ecthymatous and phlyctenoid, as you will see by this drawing. But horses are subject to another and chronic form of disease caused by the same poison, which is like a *furuncular* disease, — namely, the farcy. The boils are called *farcy buds* before they suppurate, and are of a scirrhous hardness: they have also inflamed lymphatics in connection with them, which are termed "corded veins." They suppurate and slough like boils, and the pus or sanies discharged will cause either farcy or glanders in another horse inoculated with it.

But another question arises, namely, Is it probable that the present furuncular epidemic is of brute origin? To answer this, we have to consider some of the general facts of the subject. When domestic animals are numerously affected with a similar disease, it is termed an *epizootic*. There are several such. The small-pox of sheep is one of these; the pleuro-pneumonia amongst cattle is another. On the continent these epizootics are of great importance, and have occasionally become destructive *epidemics*, by being communicated to man; they have extended from *zoon*, the brute, to *demos*, the people. Of this kind is the carbuncular disease termed by the Germans Brandbeule—Anglice, *brand* boil, —if we translate the term in the old English style, as in the sentence "plucked like a *brand* from the burning." This term is applied to this form of boil or carbuncle, because the inflammatory action passes rapidly into gangrene, and the part affected becomes black. Hence it is also called anthrax (the Greek for coal), or Anthracion, Carbo in Latin, and Charbon in French. This rapid destruction of the tissue affected has been likened also to a burning: hence it has been termed *Pruna*—not merely a coal or brand, but a *live coal* or *burning brand*; the ignis Persicus of Avicenna, le Mal des Ardens, ignis sacer, and St. Anthony's Fire. The last name was given to it because Pope Urban II. founded the religious order of St. Anthony to relieve the sufferers. Alibert gives some interesting details respecting the wide and rapid spread of this epidemic. The population of Paris fled into the country, while the inhabitants of the country sought help in Paris: those afflicted with it lost their extremities by gangrene. Indeed, it seems probable that the use of spurred rye for bread was as much a cause of the epidemic as a pestilential poison. Sauvage describes an epidemic of this kind as *Pestis carbunculosa*, and states that it occurs in country people, who eat the flesh of cattle which have died of anthrax; also amongst those who have to attend them, or to do with their carcases, as herdsmen, farriers, skinners, &c. You will find a full description of this disease in Dr. Craigie's Practice of Physic, taken from French and German writers. Dr. Craigie also describes after Strack a form of furuncular fever mentioned by Celsus—the Epinyctis, or *night*-boil, which I cannot but think closely resembles the Pestis carbunculosa. The *Terminthus* described by Galen, a species of carbuncle, is expressly stated by that writer to have been epidemic. It is clear that the disease described by Pliny as epidemic in Gallia Narbonensis, and as destroying two persons of rank, is prevalent in modern times, if we lay any stress upon the statement he makes as to the seat of the carbuncle, namely, under the tongue, for this is the Glossanthrax of Sauvages. I have looked into some of the German books, and find that there is a febrile disease known under numerous designations which is highly contagious, usually characterised by a furuncular or carbuncular inflammation of the skin and subcutaneous cellular tissue of an erysipelatous and gangrenous character, and which attacks man and all domestic animals except the dog; even birds and fishes, as the tench, being seized with it. It may be considered as a malignant erysipelatous fever, originating with horses and cattle, allied to puerperal fever, hospital gangrene, &c., and dependent upon the presence of a septic poison in the blood. Like the various modifications of the erysipelatous poison, it appears differently under different circumstances; as, for instance, when it appears in cattle, as the epizootic *Milzbrand*, or gangrenous splenitis, or if communicated to sheep by inoculation, as erysipelatous inflammation simply, or as when it occurs in the phlyctenoid form alone, or the *vesicula* gangrænescens. Heine distinguishes three modifications in man of the carbuncular form—

the anthrax-fever, or carbuncle of gangrenous splenitis,—namely, 1. The mild form of a pustule, with a circular ecthymatous or phlyctenoid eruption of small vesicles, the pustule drying up, and the inflammation not extending below the dermis. In this form there is little or no fever. 2. The gangrenous form (Pustula gangrænescens), in which the pustule passes into inflammation in and below the dermis, constituting the carbuncle; and 3, the sphacelous form, which is the genuine anthrax, and in which the pustule becomes livid or coal-black and dry, with large gangrenous phlyctænæ. In the two latter the fever is of the malignant type. There are other modifications, as the glossanthrax, in which a solitary carbuncle appears under the tongue. In some cases there is no eruption whatever, but the animal or the human being is struck down at once, and dies in a quarter of an hour. The disease appears also with variations in the phenomena according to the kind of animal attacked; but these I need not trouble you with.

Looking generally at the phenomena which our furuncular epidemic presents, I think we can see in it a family likeness to this epizootic group; in fact, if the malignant carbuncle were to appear in a mild and chronic form—if we could suppose it to be modified (as the variolous poison is modified to produce vaccinia), so as to be disarmed of its malignant and acute character—we should say, *à priori*, that it would assume just the characters of this furuncular epidemic. Within the last few years we have become more familiar with epizootics than in former years; and this is due, I believe, to the importation of the diseases with foreign cattle. What concerns us most as practitioners is, what pathological relations have these epizootic contagious fevers to those which attack mankind? Important as such a question is, I know of nothing like a sufficient answer. We are utterly in the dark about them, and yet for anything we know our most widely spread and most destructive epidemics may have their origin with brutes. Startling as this assertion may appear, I believe it is well founded. I have long suspected that epidemic catarrh has its origin in the pleuro-pneumonia of cattle. I have almost satisfied myself that puerperal fever will originate in the same quarter. Two or three years ago, I attended a modest unmarried girl of 20, in consultation with a medical friend, whose case was just like puerperal fever, except that she was not parturient, only menstruating at the time of attack. She died in about sixty hours, and the case was hopeless from the first. My friend had two parturient females under his care at the same time, both of whom I saw also in consultation with him—for a day or two after the girl died *they* were attacked with puerperal fever; both these were most acute cases, dying in a few hours. We made inquiries respecting the first case, suspecting contagion, and found that she had been in close attendance upon a cow that had died of milk fever, in a shed almost within the house. This fact put the accoucheur on his guard, being satisfied that his first case in the girl was true puerperal fever, and probably derived from the cow. But a more interesting circumstance is this, that a poison communicated from man to brute, or *vice versâ*, may not produce the same phenomena. Thus, although there are points of analogy between the distemper in dogs and the variola and vaccinia in man, yet there is no nosological similarity, and yet it is a practice in this neighbourhood to protect valuable puppies from the "distemper" by vaccinating them,—that is to say, they *are* protected. Now, supposing that the poison causing the fever termed distemper was communicated to a child susceptible of its action from not having previously had an analogous fever, what form of fever would it excite? I am not aware that an inquiry has been made, or even a suspicion entertained regarding the probability of pathological phenomena so resulting, and yet we might possibly sometimes explain in this way the supposed spontaneous origin of certain infantile fevers. With regard to the erysipelatous group, to which this furuncular affection seems to belong, I am not aware that there is one of the group so chronic in man as this is. It is the characteristic of them all to be acute, and of many to be frightfully acute,—as in puerperal fever, malignant scarlatina, malignant pustule, human glanders, and others. It is, however, worthy notice that the latter horrible disease is more chronic in the horse in the form of farcy than this furuncular disease is in man; so that the mere duration is not an absolute objection against its admission into the erysipelatous group, while its epidemic prevalence and its phlyctenoid and ecthymatous modifications take it out of the class of ordinary boils. It is not by any means improbable, indeed, that it may assume in some districts the ordinary form of erysipelas, or even may not be accompanied by any cutaneous inflammation whatever; just as we have variola sine variolis, or scarlatina sine eruptione, or cholera asphyxia sine cholera. In this class of cases the disease might be expected to assume a rheumatic form.

I know there are practitioners who totally object to this doctrine that dissimilar phenomena may arise from the same febrific poison, more particularly on the ground that it strikes at the root of all our established general facts and principles. But in my general lectures I think I amply explained to you that many of these so-called facts and principles are erroneous and untrustworthy; that, in fact, they prevent us comprehending more perfectly the true pathology and pathological relations of febrile diseases, and that unless the doctrine I have referred to be an admitted principle in our inquiries, we shall really make very little progress, for we have to consider the whole group as blood diseases, of which the local inflammation, &c., are only varying symptoms.

I know that it is almost a painful thing thus to have your doubts raised on points regarding which all seemed to be agreed. But the fact is, that the agreement is only a seeming one, and is only attained by ignoring a great number of residuary facts, and quietly allowing a great number of assumptions: such an imperfect settlement of principles can only stand in the way of progress, and the sooner it is cleared away the better.

From a consideration of the history of this epidemic, and of the analogous facts which have been recorded, I am of opinion that it is essentially a blood disease, caused by some specific poison. What that poison may be, and what its origin, are altogether uncertain; it may be from the atmosphere, or from our food, as American flour for example, or from the flesh of tainted cattle, or may be generated within the body by atmospheric peculiarities; or it may be a contagious *materies*, originating in the first instance with brutes, and then transmitted from one individual to another. If it be the latter, as seems most probable, then I think it is *strictly* contagious, like the glanders or syphilis, and not infectious also, or, in other words, not contagious through the medium of the atmosphere.

During several months past there has been an epizootic prevalent in this neighbourhood, affecting horses and cattle. In the latter the mouth and throat are so inflamed that the animal cannot eat, or the hoofs come off. The butchers and farriers call it a "lung disease," but it does not appear that the animals cough. The same disease is prevalent in Shropshire. It seems to correspond with the epizootic Maulweh and Klauenseuche of the Germans, and is accompanied with an aphthous eruption. According to Levitzky, persons attending on cattle attacked with this disease, or something similar which he terms "angina catarrhalis," were affected with an inflammatory *rheumatic* fever (not with an angina catarrhalis), accompanied with a pustular eruption, and abscesses and ulceration of the lower extremities.

In treating this furuncular disease, you have little more to do in ordinary cases than to let it run its course, which is completed in three or four weeks. An occasional purgative and warm bath will be useful in allaying inflammatory action, and perhaps diminishing the number of boils. Two grains of calomel with rhubarb, colocynth, or scammony, twice a week, will be useful: in the more severe cases, the mineral acids and vegetable bitters must be added, and a good diet; the liquor of the amorphous sulphate of quinine in full doses with dilute nitric acid, has been found useful. In all cases, however, purgatives and the warm bath are beneficial. I do not think you do much good by direct applications to the boils—as cataplasms, fomentations, irritating plasters, &c. So soon as suppuration is established, a free incision should be made into the boil, and then the water-dressing applied: care should be taken that the pus does not flow on the adjoining skin, and (as in erysipelas) that the sponges, &c., be not used by other patients or persons. The anthrax fever on the continent is said to be disseminated by flies and other insects carrying serum and pus from the phlyctænæ and carbuncles to the skins of sound persons and cattle; for the poison will enter through the unbroken skin. This may be the case also with the pus and serum of this furuncular disease. I do not know that it is,—and, therefore, good may be done by taking the proper precautions—certainly no harm.

Reviews.

Operative Surgery. By **Fredrick C Skey**, F.R.S. 8vo. pp. 709. London Churchill. 1850.

It will be conceded that a comprehensive and practical treatise on Operative Surgery has not, until now, been written by an English surgeon. We have two short manuals which have emanated from the pens of two of the most eminent members of the Edinburgh School. Mr. Skey has, however, in the work which we have now to bring under our readers' notice, more than amply redeemed the deficiency. Systematic treatises on the general principles and practice of surgery have abounded, but these must be kept distinct from those which inculcate the principles and conduct that constitute the safe and skilful operator. It is in the full and eloquent exposition of these that Mr. Skey's work is distinguished from other treatises, and through which it presents features that claim more than a mere cursory notice.

We shall endeavour, by a statement of the contents of this work, and by extracts from some portions, to make evident to our readers the particular characteristics of Mr. Skey's treatise.

It will be seen throughont, that the author exhibits pre-eminently self-confidence founded upon a thorough acquaintance with the proceedings to be had recourse to. The reader will not have perused many pages without finding himself in company with a thoroughly practical man who is accustomed to repose upon his own knowledge, and confident in his own matured judgment. Mr. Skey states, what the reader will see stamped on every page of his work:—

> "I do not profess to give the multitudinous opinions of other men, and yet I have not withheld them. I have quoted the opinions entertained by most of the eminent members of the surgical profession, so far as a general intercourse and an extensive acquaintance has enabled me to command it. The character of my mind is not attuned to authority, and it has been my practice, no less than my principle in life, to think for myself."

We now pass to the consideration of the contents of the book itself, in the order in which we meet with them.

The first chapter may be looked upon as introductory; it treats of the importance of operative surgery regarded as a branch of medicine; it lays down the requisite qualifications for an operating surgeon, and it enforces the obligations incurred by the surgeon in undertaking an operation. All these topics are treated in forcible and eloquent language.

The author does not pass unnoticed the minor points which, though often disregarded by teachers, are of great practical importance: we refer to the arrangement of instruments, the preparations previous to the commencement of an operation, the attention to be given to the general state of the patient, and the conduct of the after treatment. Since the safety of the patient and the reputation of the surgeon may depend much upon these points, many of our readers will do well to study carefully this chapter.

The second chapter is occupied with wounds or incisions, their extent and direction, as well as the mode of holding the knife in making them.

The use and value of sutures are dwelt upon, and the objections advanced against their employment disputed. The care required in the after treatment of an operation is fully impressed upon the reader. The period and mode of opening abscesses is briefly and clearly explained. The manner of tying a ligature, and the nature of the operation, are tersely described.

The observations on tetanus which Mr. Skey introduces include the narrative of a case in which chloroform was freely exhibited. We quote Mr. Skey's opinion of its influence.

> "In this case, I think I may be said to have fairly tested the merit of anæsthetic agents, which are invaluable in their power to avoid suffering, but possess not the slightest power in contending against the disease itself. Should another case occur to me, I should be disposed to apply the actual cautery freely under chloroform, along two-thirds of the spine." (p. 58.)

The third chapter treats of dislocations. We shall quote at some length from this chapter on account of its practical importance, and because it presents some of the characteristics to which we have alluded as exhibited by this work

On this subject, Mr. Skey in the first place points out the illogical and erroneous nomenclature applied to these accidents: *e. g.*—

> "If we employ the term 'dislocation of the shoulder' we *should* mean dislocation of both bones from the chest, but we *do* intend to express simple displacement of the humerus from the scapula." (p. 59.)

The author, in the following extracts, forcibly expounds the principles which should guide the conduct of the surgeon in the management of dislocations, and at the same time combats what he justly regards as erroneous opinions and practice.

> "The affected bone is dislocated from its socket, generally, in consequence of a blow it has experienced. It remains dislocated, in consequence of the tension of the muscles inserted into it, which become the subjects of passive contraction. This state continues, so long as the limb remains

undisturbed by the efforts of the surgeon to reduce it. But no sooner is the attempt made to elongate the limb, than the same muscles, one and all, start into sudden and positive contraction, as though for the express purpose of preventing the descent of the bone. In this unequal struggle, they contend against the yet more powerful agents of traction by pullies, yielding their ground, inch by inch, till the bone is restored to its normal position, when they retire from the contest, and instantly resume their former state of repose. In the case of the dislocation of a large bone, the power exerted by the muscles, in order to retain it in its false position, is enormous, as may be readily inferred from the force employed to counteract them; and this force is also continuous throughout the whole period of the attempt at reduction: the contractile power becoming probably greater as the bone descends, and approaches the range of the ordinary contractility of its muscles.

"It does not appear very reasonable to suppose that a force like that employed to reduce a bone, fixed by some of the largest muscles in the body, and often reaching that of several hundredweight, could be diverted from its straight line for any useful purpose by the mechanical pressure of the hand, or even rotated by the unassisted efforts of one, or even of two persons. Yet surgeons often take credit to themselves for reducing the bone by such manœuvres; such as rotating the femur inwards, after extension of the limb, for the purpose of raising the head of the bone into its socket, or raising the head of the humerus in like manner in dislocation of that bone downwards into the axilla. An experience of twenty-five years of every variety of dislocation, at St. Bartholomew's Hospital and elsewhere, long since taught me the futility of such attempts; and I am strongly of opinion that the apparent success which occasionally, *though rarely, attends them*, is due to accident alone" (p. 61).

The principle which the author endeavours to inculcate is, that the "immediate act of reduction is effected by the muscles, and by them alone;" that the extending force, if properly applied and properly maintained, will suffice, without other interference, to remedy the accident. The practice which Mr. Skey enjoins is that "the line of traction should hold reference less to that of the socket, or surface from which the bone has been displaced, than to the more important purpose of easing it from the surface on which it has lodged." If the bone be brought sufficiently downwards, and placed in the *neighbourhood* of the articulation, the author believes that the muscle will replace it with as much ease as that which originally dislocated it. To this end the line of extension is a less important subject of consideration than is usually supposed.

Mr. Skey deduces from the preceding principles a very important rule of conduct in the application of the extending force. The agents of extension should not be applied on the dislocated bone. As the muscles are the immediate agents of reduction, by the contraction of which, when the bone is brought within range of the joint, they are violently drawn, or, as it were, "sucked" into its cavity; so, by applying the extending force to the dislocated bone, the very muscles which should draw upon the bone are dragged at both ends, and excited to further violent and irregular contraction. Thus, for example, in dislocation of the humerus, Mr. Skey would apply the agents of extension at the wrist instead of on the elbow.

A consideration of the physiological attributes of muscles will lend strong confirmation to the arguments used by Mr. Skey; and we hope to see them extensively beneficial in removing or less manipulative interference, and in the introduction of more simple and scientific management of dislocations. To this end we direct especial attention to the details of treatment advised by Mr. Skey under the head of each separate dislocation, and which are, with justifiable confidence, propounded as the fruits of long practical study and experience.

Following the chapter on dislocations is one on bandaging, which is treated in its relations to the previous subject, and to that of fractures which follows, and which we find to be characterised by the same features of practical experience and the inculcation of simplicity in their management. Being compelled, however, to have some respect for our space, we pass to the next chapter—that on Aneurism.

The consideration of the structure of the arteries leads to that of the principles of the ligature, on which important point, after stating the differences of French and English practice, Mr. Skey observes:—

"The general inference to be derived

from the consideration of the two modes of treatment is, that, so far as relates to safety, one has little advantage over the other; and that arteries will become obliterated in two ways, either by the union of their opposite sides when pressed into contact, or by the organisation of the lymph effused around and between their coats when cut asunder by a fine ligature. Of the greater simplicity of the English operation there can be no doubt, both as to its actual performance, and in respect to the time required for the completion of the healing process; and it has the additional advantage, derived from the ligature being so far sunk into the coats, that it cannot slip from its position. To attain this object, a ligature should be sufficiently strong, fine, round, and inelastic. It is unimportant what its composition, provided it possess the above requisites, whether silk, or flax, or leather, or cotton, cat-gut or silkworm-gut; for all these agents have been resorted to. The ligature in common use is silk, which should be well twisted and waxed; and, as I have before remarked, there can be no necessity to test its strength by the whole force of the hand; for, although even that force would fail to divide the external coat of an artery, a much less force will suffice for the entire laceration of the two internal coats, if that be deemed necessary. It is undeniable that a soft or flat ligature produces a coarse jagged division, and that a small and fine thread forms an equally clean narrow groove between the coats. It is hardly necessary to say that the size and strength of the ligature should be proportionate to the size of the vessel to be tied" (p. 178).

In this extract we have both the principle and the practice clearly laid down. The author proceeds with the consideration of the various forms of aneurism. We may observe that this subject is ably discussed, and the best modes of treatment are stated. We would particularly direct attention to the directions given for the application of the ligature in aneurism, as, also, in the treatment of wounds of arteries.

Mr. Skey devotes separate sections to the subjects of aneurism and ligature of the principal arterial trunks, carefully describing the steps of the several operations. We quote the author's description of the operation of tying the axillary artery, which he has himself performed, and the manner of which manifests originality:—

"I commenced an arched incision about three inches above the clavicle, close to the outer border of the sterno-mastoid muscle, and carried it a little outwards, curving it towards the clavicular origin of the muscle, which I exposed to somewhat more than half its length. This flap, convex towards the acromion, I reflected inwards with the platysma muscle. A little careful dissection with a blunt silver knife exposed the lower belly of the homo-hyoideus muscle, and a portion of the sac, through the walls of which the pulsations of the artery were visible. On the inner side of the base of the wound the external border of the scalenus was also exposed; and by tearing away the cellular tissue in this space, by means of a blunt hook and silver knife, the transversalis colli and supra-scapular arteries were brought distinctly into view, arising from the thyroid axis within the scalenus muscle, and proceeding outwards across the wound to their destination. Below the transversalis colli was felt the subclavian artery; and above the artery were seen the lower branches of the axillary plexus of nerves. The vein was not seen. I divided the cellular tissue covering the artery, fully exposed it, and found it perfectly healthy. Having slightly detached it from the rib, I had no difficulty in passing around it an armed needle, and encircling the vessel with a ligature at a quarter of an inch on the outer side of the scalenus. On pressing the artery at the situation of the ligature, all pulsation in the sac ceased: I then tied the thread. The operation was completed within ten minutes. The quantity of blood lost did not exceed one drachm" (p. 224).

Nine years have elapsed since the operation, and the patient is in possession of good health, although the recovery was retarded by phlebitis of the lower extremities, and afterwards of the upper extremity on the side operated upon.

Passing from the very full account here given of the various operations upon the arteries and veins, we arrive at the subject of varicose veins. Mr. Skey, after allusion to the various plans of treatment which have been adopted, states that which, in his own hands, has been found most successful and safe:—

"No danger attaches to the destruction of the saphena and its branches by means of escharotics, which may be employed in the form of caustic issues with all confidence for the removal of varicose veins of the leg. Having tested this practice for many years, and adopted it largely in the out-patient ward of St. Bartholomew's Hospital, and also repeatedly in private practice, I can unhesitatingly say, that the treatment is both efficient and safe" (p. 300).

Mr. Skey states that he has never known pain or inflammation beyond the locality destroyed. The efficiency of the plan is attributed by Mr. Skey to its applicability to any part in which diseased veins congregate, and in any number on the most prominent parts, each issue being about the size of a pea.

We reluctantly dismiss the chapter on amputations with but few remarks. It contains a most eloquent discussion of the circumstances under which alone this operation should be had recourse to. We may take occasion to point out more particularly Mr. Skey's improvement on the tourniquet, by which that instrument is not only rendered more efficient in controlling the circulation during amputation, but is also rendered available for the treatment of aneurism by pressure.

The chapter on excisions embraces a consideration of the nature and circumstances of the operation, and of the particular forms of disease in which it is employed; such as the removal of dead or diseased bone, of tumors, of portions of joints, &c.

Tumors constitute the topic of the following chapter, and are discussed under the several heads of their characters, whether local or constitutional, benign or malignant, the cases for operation, and their several varieties. The rules laid down for guidance as to the removal of tumors will be found to furnish safe guides in practice. We can affirm the same with reference to the practice advised by Mr. Skey in the case of "ganglions," which so often prove intractable, but, under the plan of puncturing and pressure, will be found to yield safely and readily. The author treats bursæ with the seton, by which they are converted into abscesses, and the cure perfect.

We could not do justice to Mr. Skey's remarks on the rhino-plastic operation within our limits. The author has made this department of operative surgery almost his own, having paid especial attention thereto, and he has constructed, perhaps, more new noses than any other surgeon in London. Mr. Skey describes his mode of operating as well as that of Mr. Syme where the nasal bones are destroyed. In the same chapter we find the operations for hare-lip and staphyloraphy. Under the latter, the author describes his method of operating, and that of Mr. Fergusson. The operations for bronchocele, and that of tracheotomy, are also included under the same subject.

The chapter on hernia contains excellent and judicious advice. The author counsels early recourse to the operation, as the ill-success of the latter too often has resulted from delay and protracted attempts at reduction. Mr. Skey decides on the negative side of the much-contested question of dividing the stricture without opening the sac.

The two following chapters comprise the consideration of operations on the external generative organs.

The chapter on lithotomy and lithotrity constitutes an excellent comparative estimate of the two operations; the merits and advantages of each are clearly and correctly set out. This chapter is singularly well-written, and for the above reasons, as well as for the accurate description of both operations, we strongly recommend it to the study of our younger brethren.

The author's management of spinal curvature deserves also attention, and may be advantageously followed.

On the Cæsarean operation Mr. Skey is practically entitled to offer an opinion, having himself twice performed it; in one case under the peculiar circumstances of its having been determined on and undertaken at the end of gestation before labour began: for the reasons which determined this course we refer to the work itself. The steps of the operation are carefully described.

The author advocates the small incision in ovariotomy, in having recourse to which he advises the careful selection of cases.

The last chapter, on operations on the eye, does not possess the originality which characterises every other portion of this work. But Mr. Skey informs his readers, in his preface, that, with respect to ophthalmic surgery, as he has had the less experience himself, so he has the more freely had recourse to the writings of others.

In concluding a notice of this work, its intrinsic importance and value, as well as the deservedly high surgical and scientific reputation of the author, require that we should add some further general remarks on what we consider to be its peculiar features and especial claims to notice.

One very prominent feature deserving

of the highest commendation is the desire which is manifested throughout the work to inculcate such principles and practice as shall incur the least danger, the least loss of blood, and require the least interference with the efforts of nature, to remedy accident or disease. The reader, as we have before said, will not fail to be impressed with the fact that he is following to the bedside a skilful and accomplished surgeon, confident in the power which his knowledge confers; but at the same time he will become aware that he is also following a surgeon anxious to an extreme, lest he put forth that power one line beyond the legitimate limits of science, or of the dictates of humanity.

In the next place we may draw attention to a characteristic not exhibited by every surgical treatise—the elegance and power of language with which the author expresses high moral maxims that do honour to his heart, and the clear and terse style in which he enjoins precepts reflecting no less credit on his intellectual powers.

We again repeat our estimation of the perfect independence of opinion expressed by Mr. Skey on all points which imparts a character (at first sight) of imperfection to this work. It might have been expected that Mr. Skey should have cited the opinions of other writers on almost every point; but, as it is stated in the quotation from the preface, this was not the author's object; and his readers have reason to be thankful that it was not. Had Mr. Skey undertaken to collate authorities on every subject, his book would necessarily have expanded itself to the size of an Encyclopædia, and would have lost its originality of thought, as well as its practical value. In a multitude of counsellors there is safety, says the proverb; but the safety, as is repeatedly observed by Alison the historian, is to the counsellors, and not to the counselled.

The young surgeon seeking counsel is safer in trusting to the fruits of the experience of *one* man of high talents than in the most complete digest of all that ever was written. Too many opinions are embarrassing, especially where the thread of a clear and cultivated mind is wanting to guide the seeker through the maze.

Among the minor features which distinguish this volume, are its table of instruments required by the operative surgeon; its excellent illustrative woodcuts; its marginal notes to indicate each topic; and lastly, its general manner of "getting up," as it is technically termed.

For all these reasons we pronounce Mr. Skey's "Operative Surgery" to be a work of the very highest importance—a work by itself. The correctness of our opinion we trustfully leave to the judgment of the profession.

Additional Observations on the Nitrate of Silver; with full directions for its Use as a Therapeutic Agent. By John Higginbottom, Hon. Fellow of the Royal College of Surgeons of England, &c. &c. Pamphlet, pp. 40. London: Churchill. 1850.

The credit is undoubtedly due to Mr. Higginbottom of having frequently called the attention of the profession to the important fact, that the nitrate of silver has another mode of action than that of a *caustic*. This salt has been extensively employed as a local sedative in arresting inflammation, in which form of disease, if efficiently applied, its beneficial effects are very great. So many diseases have been treated with this remedy, and so many cases of its successful employment under various circumstances are now on record, that it is unnecessary here to repeat what may be found in the pages of every medical periodical. We therefore merely draw our readers' attention to Mr. Higginbottom's pamphlet as presenting a digest of the forms of disease in which the author has found this remedy serviceable.

Observations relating to the Science and Art of Medicine. By William Wegg, M.D., Cantab., Physician to St. George's and St. James's Dispensary. 8vo. pp. 233. London: Churchill. 1851.

This volume consists of a series of remarks upon the modes of action and virtues of several remedies—*e. g.*, blood-letting, mercury, iodine, antimony, arsenic, iron, colchicum, opium, hydrocyanic acid, stramonium, strychnine, and quinine; on the alimentary canal, as affected by medicines; and upon the administration of support in disease.

These subjects are introduced by observations on disease generally, and upon the employment of remedies.

The work is printed in a handsome large type; it forms a good-looking book, but is strikingly deficient in originality or matter of importance.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

February 25, 1851.

THE PRESIDENT IN THE CHAIR.

PREVIOUSLY to the paper of the evening being read, Dr. ASHBURNER made an attempt to address the meeting respecting a statement made at a meeting of the Society, held some weeks previously, by Dr. Marshall Hall, with respect to the report of the case of a patient who appeared to have had his leg amputated under the influence of mesmerism, and which Dr. Hall stated the party operated on had confessed to him to be a deception.

The PRESIDENT considered that this was a question which rested entirely with Dr. Marshall Hall and the party who read the paper, and could not now be entered into before the Society.

Dr. ASHBURNER again attempting to address the meeting, and order being called from all parts,

Dr. COPLAND rose and said it was evident that the gentleman now attempting to address the meeting was insulting the Society.

The PRESIDENT said this course of proceeding was quite irregular; and, order being restored, the business of the meeting was proceeded with.

Case of Small-pox recurring a Third Time after Vaccination, when it proved Fatal. By JOHN WEBSTER, M.D., F.R.S., &c.

After alluding to the fact that hooping-cough, measles, and scarlatina, generally occur only once during the lifetime of an individual, exceptions nevertheless to the above rule, as well in these complaints as in small-pox, having been recorded by authors, three well-marked examples of the recurrence of small-pox, met with in the same family, are related, one having terminated fatally.

The case specially referred to by Dr. Webster was that of H. W. U., who had been vaccinated satisfactorily in 1827, when three months old. Notwithstanding this circumstance, he became attacked by small-pox in 1833, along with an elder brother, who had been likewise vaccinated. Both patients recovered, and nothing more was thought of the matter till 1838, when the two lads were again attacked by variola, along with another, that is a third brother, likewise regularly vaccinated. However, all three got quite well in one time.

Subsequently Mr. H. W. U., whose case is now first mentioned, went to India in the Company's service, where he was seized, in April last, with the usual and well-marked symptoms of small-pox, which soon became confluent, and proved fatal at Dharwarinth on the 13th of that month; thus making the third time this gentleman had been affected by variola, although previously vaccinated.

Case of Confluent Small-pox after a Third Vaccination. By Dr. A. P. STEWART.

A gentleman, 25 years of age, who had been five years apprenticed to a gentleman in extensive general practice in Devonshire, had been most successfully vaccinated when six months old. Requiring to attend variolous cases, he had the operation repeated in July 1849, without effect; and again in May 1850, with much irritation, inflammation, and swelling of the arm; the lymph from the vesicle not communicating the disease. He came to London to begin his medical studies on the 13th of October last, having been exposed to infection the same morning. The train of premonitory symptoms set in on the 15th, and was followed, on the 17th, by the appearance of a closely-packed eruption of papulæ all over the body. For four successive nights mild delirium was present; but the sore-throat and conjunctivitis, occasioned by the presence of vesicles, were quickly relieved by the application of a solution of nitrate of silver; and the pulse, previously as high as 120, never rose above 100 after the seventh day. The vesicles, though very numerous on the hands and feet, caused little or no pain. On the eleventh day of the disease, and seventh of the eruption, they were at their height; and in the course of the next two days had nearly all dried up and scaled off, with very trifling discharge. Thereafter convalescence went on rapidly.

In the district where the subject of the attack resided, the popular prejudice against vaccination has always been so strong, that for a number of years it had been much neglected; and the parents are still in the habit of inoculating their children. During the last nine months it has been practised to a very large extent, with so much secresy as to defy the utmost efforts of the authorities to obtain legal proof, and with the effect of keeping up the disease during many months, and spreading it abroad over the whole district. It was introduced in April by a sweep-boy, who took it in a town not far off; and, returning to his family, communicated it to his unvaccinated brothers and sisters. The latter, again, going to a lace school, infected several of the other children, after which it spread rapidly in all directions. Several instances were adduced as examples of a large number in which inoculation had entirely failed to protect those who had been subjected to it from secondary attacks; besides the case of a lady of title, whose mansion was in the infected district, and who had lately had a second attack of natural small-pox. The author then stated, as the result of his and Dr. A. Anderson's experience in the Glasgow Fever Hospital, from Nov. 1836 to Nov. 1838, that of the 126 cases admitted, 31 were vaccinated, 52 doubtful (consisting of *un*vaccinated with a sprinkling of imperfectly vaccinated patients), and 43 unvaccinated. The mortality among the "doubtful" was 1 in 3·06, or 32·7 per cent.; among the unvaccinated, 1 in 2·86, or 34·8 per cent.; while among the vaccinated it was only 1 in 31, or 3·2 per cent. The author concluded his remarks by adducing his experience in the N. W. district of St. Pancras parish during the epidemic of 1845. Those who had been successfully vaccinated, *both children and parents*, though exposed night and day, in their unventilated dwellings, to the concentrated infection of the disease in its worst forms, were proof against it; while those in whom the evidence of success was doubtful, were not proof against the milder forms, and very often took the disease from convalescents whom they met in the open air. The author concluded, with Chomel, that "we cannot fairly exact more from vaccination than from small-pox itself."

After the reading of the report of a Case of Small-pox occurring after Vaccination, by Dr. Webster, and the history of a similar case, by Dr. Alexander Stewart,

Dr. **Mayo** said he remembered, during the small-pox epidemic which took place in the year 1820, a great many more were attacked with the disease after inoculation than after vaccination, and the deaths were much more numerous amongst those previously inoculated than those who were vaccinated; nor did he (Dr. Mayo) consider that the very great efficacy of vaccination was by any means lowered, from the history of cases of small-pox occurring after vaccination recorded at the present day. Dr. Mayo then asked, with respect to revaccination, whether it gives any security to the party where it produces the true vaccine vesicle; for, he considered, on this question there were many points worthy of observation. In conclusion, he referred to cases of secondary small-pox which, Dr. Mayo remarked, at first very much assimilated measles, and which he had seen many years since, under the care of Dr. Francis Hawkins, at the Middlesex Hospital.

Dr. **Gregory**, on rising, remarked that the cases brought before the Society on this evening were peculiarly interesting, and merited a great deal of attentive consideration. The first case, he said, was that of a person taking small-pox in advanced life, and dying from the very unfavourable circumstances under which he had been attacked with the disease; but the previous attacks under which this patient was said to have laboured prior to the age of puberty appeared somewhat singular to Dr. Gregory, and he asked, had a medical man attended him during those former attacks? as this was not mentioned in the history of the case, and who then could prove the certainty of variola? for such cases, Dr. Gregory said, do not occur at the hospital. With respect to the next case—one of confluent superficial small-pox, occurring after vaccination—Dr. Gregory observed that revaccination had been practised, and showed how unimportant a precaution it is. Chomel, he says, remarks that we have no right to expect more from vaccination than inoculation; but he (Dr. Gregory) holds this doctrine to be in the fullest sense unsound, and asked—What is it we are to expect from inoculation? We give the patient, he says, the disease of small-pox; he takes it, perhaps mildly—passes through its various stages—and recovers: so it ends; and, in exception to all laws, he may have the ill luck to take the disease a second time. Dr. Gregory does not believe that any one having arrived at the age of 50 need have the slightest fear, being protected by inoculation. Dr. Gregory appeared to think that vaccination protected the patient up to the 15th year; but that, after that age, having taken a first attack of small-pox, he might have a second. Vaccination, he says, is to prevent any attack up to fifteen years of age, and mortality is greatest up to this period of life; and remarked that a number of years had elapsed, after the introduction of vaccination, before its preservative influence in modifying an attack of small-pox was received. During the last seven years Dr. Gregory stated the mortality from this disease at about 5 per cent., although, in Dr. Webster's paper, it was considered as low as 3 per cent.

Dr. **Mayo** asked whether he was right in the important fact, that during epidemics a greater number took disease that were previously inoculated than those vaccinated, and that the mortality was greater amongst the former.

Dr. **Webster** had been asked whether the patient described in his case had been seen by a medical man during his first attacks of small-pox, in answer to which he said that, both during the attacks and vaccination, he was attended by a medical man with whom he was acquainted; and that the attack in India was treated by the medical officer of the regiment. He (Dr. Webster) quite concurred with Dr. Gregory, that this fatal case occurred under most unfavourable circumstances—that is, under the influence of a tropical climate. Dr. Webster said there were several instances of such cases, one of which the President had mentioned to him,—of a pupil who had died of small-pox on going to India; showing the importance of vaccination previous to going abroad. Dr. Webster wished the Society to understand that he did not depreciate the great value to be derived from vaccination, and doubted very much, where many cases of small-pox had occurred, whether the parties afflicted with the disease had been previously properly vaccinated; and he considered the reason why small-pox was so fatal was on account of non-vaccination. In many parts of England—Nottingham, for example—he remarked that the parents had an objection to vaccination, considering it to be going against the will of Providence. In Wolverhampton, during an epidemic, there were 61 deaths, out of which 46 were not vaccinated; in Dudley, 60, of whom 50 were not vaccinated; in Coventry, 65, and only 8 vaccinated: and Dr. Webster did not consider the number of deaths above given remarkable, when so few out of the number had been vaccinated. In continuation, he observed that in some families there was an imperviousness to vaccination; and in the family to whom the case relates it was only the young men who suffered. The brother of the young man whose case had been related had gone to South America, and always had great fear of the disease; he was revaccinated previously to leaving England, but, during a small-pox epidemic in South America, was attacked with the disease, and nearly fell a victim to its influence.

In answer to an inquiry whether he considered it advisable to revaccinate after the fifteenth year, so as to protect the party,

Dr. **Gregory** replied that after the fifteenth year vaccination was as complete a protection as inoculation would be, but, before this period, much greater; but that, after fifteen years of age, a different law prevails, and that at this age he (Dr. Gregory) considers revaccination of little value, and only gratifies the mind; and thinks it should be performed if merely for this purpose. He next asked, What is the law that prevails at this period? The constitution, he says, for the first time seems susceptible of small-pox; and he thinks that as yet we have no means of increasing the protective powers, unless inoculation would do so, after the fifteenth year; but as to this point he (Dr. Gregory) is unable to speak, the laws of this country prohibiting inoculation at any period. In France, however, a different law prevails; and from a number of experiments performed there, and many which he performed himself—but at what period he could not mention—he was led to draw the following conclusion:—If inoculation be performed after 15 years of age, it does not produce a papular or contagious eruption; and this he knows to be true. A physician in Italy has very strongly urged on the Austrian government the adoption of this measure, which they have not allowed, and which he (Dr. Gregory) considers a very great hardship.

Dr. **Copland** mentioned the circumstance of a family at Hackney, consisting of six persons, all of whom had been vaccinated when children. He had personally examined the cicatrix in each arm, and found it complete. Some of those grown up had small-pox, and had it in a modified form; but, when it attacked those whose ages varied from 14 to 15, it was still [illegible] modified; and in those of the family of 11 to 12 years old, it was chiefly so. Dr. Copland considers that vaccination only affords a temporary protection, and believes that, in years to come, small-pox epidemics will scarcely spare vaccinated cases; and fears that the vaunted protection of vaccination will be found visionary.

Mr. **Barlow** believed there was a considerable amount of imperfect vaccination, which led him the other day to examine ten cases casually selected. He found that four of them only bore the true character, and the others were cases of spurious or bastard scars. He should be glad to hear the opinions of those more experienced than himself on this subject.

Dr. **Snow** said he had seen modified small-pox in children under 15, and did not know from what source Dr. Gregory may have drawn his conclusions. If, Dr. Snow said, they were from Dr. Gregory's hospital, they might not be exactly correct, as few mothers would bring children attacked with modified small-pox to hospital under fifteen years of age; whereas, after that age, those parties being servants, and more or less dependent on their own resources, from not being able to [illegible] attention at their own homes, would be those most likely to seek hospital relief. With respect to the want of protection from vaccination in after-life, Dr. Snow thinks small-pox is rarely seen at 35, 40, or 45 years of age. The great body of medical men present, he felt sure, had been vaccinated, yet not one was marked with small-pox.

Dr. **Webster** here briefly referred to Dr. Thompson's work, showing the great mortality after inoculation compared with vaccination during epidemics.

Dr. **Gregory**, on again rising, said he was not quite satisfied as regarded perfect vaccination. He thinks, if the cicatrix is not circular, we cannot infer from this that vaccination has not taken place. In answer to Dr. Snow's observation respecting protection up to the age of puberty, he (Dr. Gregory) had not taken his observations from hospital cases, but from extensive correspondence all over the country; and he had never seen a case of modified small-pox in the young, either in hospital or private practice. If vaccination, he said, proves a protection even to one-half of mankind, it must be a great blessing.

Mr. **Arnott** asked how many cases of small-pox, during the last seven years, occurred without vaccination, and what was the mortality.

Dr. **Gregory** showed, from a statistical account, that after vaccination the mortality never exceeded 5 per cent.; whereas, in those not vaccinated, it was infinitely greater.

Dr. **Marshall Hall** mentioned the case of his son, who had a peculiar resistance to vaccination, which operation having been performed thirteen times, he had, on returning from Eton to Brighton, an attack of modified small-pox, though not fifteen years of age.

The **President** requested to hear what relation existed between small-pox and chicken-pox.

Dr. **Gregory** said that, on this the last meeting that the President would occupy the chair in that capacity, he felt happy in answering any question put to him by one who had acted so courteously to every member of the Society during his year of office.—As to the identity of small-pox and chicken-pox, Dr. Gregory considered them both distinct diseases; for that cow-pox is received both before and after chicken-pox, and has no effect whatsoever in arresting the march of this disorder, which it evidently has in small-pox;—showing, as he observed, distinct evidence that they are not analogous.

Dr. **Stewart** remarked that his object in bringing his case before the Society was on account of Dr. Webster's case,—so that the subjects of variola and vaccination might be brought before their consideration at the same time, as well as the prejudices against inoculation. He said that 1500 cases, mentioned in Dr. Gregory's table, were after all very few, considering the large amount of population; but he (Dr. Stewart) considered it was not in hospitals that we could see the protection afforded by vaccination; and mentioned some cases which occurred in close ill-ventilated rooms, which he had visited when physician in St. Pancras parish, where those previously vaccinated had, even under most unfavourable circumstances, escaped contagion.

The next meeting of the Society will take place on Tuesday, March 11.

MEDICAL SOCIETY OF LONDON.

February 22, 1851.

Dr. J. R. **Bennett**, **President**.

Specimens of Uterine Disease.

Dr. **Henry Bennet** presented to the Society several pathological specimens of uterine disease, and a wax preparation illustrating inflammatory ulceration of the cervix uteri. The latter had been taken from a cast and coloured from life by Mr. Tuson, the talented modeller of University College. It illustrated in a very admirable manner the disease which he had described in his writings as ulceration of the cervix uteri,—a morbid state to which some persons had lately attempted to apply the nondescript term of granular inflammation. It would be perceived that the wax model presented the characteristics which writers had ascribed to ulceration. "A granulating surface, secreting matter." (Sir Astley Cooper.) — "A solution of continuity in any soft part of the body, attended with a secretion of pus or some kind of discharge." (Samuel Cooper.) There was no appearance of loss of substance, it was true; but on examining one of the macerated uteri which he had just laid before the Society, it would be seen that the cervix, which had been ulcerated during life, presented very evident destruction of tissue, the mucous membrane having been destroyed so as to reveal the lamellated structure of the submucous tissue.

The other uterus was a very interesting illustration of corroding ulcer, kindly forwarded to Dr. Bennet by Mr. Highmore, of Bradford, Wilts. This disease was one of rather a mysterious character, the intimate structural nature of which had not yet, he believed, been satisfactorily made out. Mr. Highmore had given him the following details;—The patient died, æt. 48, and was the mother of eleven children, the youngest of whom was born when she was 43. In 1847 she became subject to leucorrhœa, and to uterine hæmorrhage, which confined her for months to her bed. In 1848 she went into the Bristol Infirmary, where the vagina was repeatedly plugged to arrest hæmorrhage, but no examination was made. Mr. Highmore saw her, and examined her with the speculum, 1849. He detected a diseased condition of the cervix uteri, which presented a fungous granular mass, about the size of a walnut, projecting from the os uteri. This disease resisted cauterisation, and every treatment local and general, progressing uninterruptedly until the patient sank from exhaustion, Nov. 1850. On examination of the uterus, now before the Society, it will be found that not only the cervix uteri, but a considerable portion of the body of the uterus, has been destroyed, without any apparent deposit of new matter, or considerable thickening or induration of what remains. The healthy uterine tissue ends abruptly in a jagged surface, as if it had been eaten away. The rectum and bladder are both extensively ulcerated, so that the three cavities communicate freely, forming a kind of cloaca. Dr. H. Bennet had submitted the uterus to Dr. Quain, in order to have his opinion respecting the microscopical anatomy of the diseased tissues, and had received from him the following interesting memorandum:—"On examining portions of the soft jagged substance taken from different parts of the ulcerated edges of the body of the uterus, I find the appearance in all pretty nearly the same; that is to say, this substance consists of—1. A loose, fine, filamentous, or cellular tissue. 2. Particles of fatty matter, in some portions very abundant, and both free and embedded in the tissue. 3. Crystals of the earthy phosphates, in the form of prisms, stars, or leaves, some free, others enclosed in the surrounding substance. 4. A few small cells containing granules, free granules, and broken-down fibres. I do not observe any trace whatever of cells, fibres, or other matters, which could connect the morbid process with cancerous disease; nor, on the other hand, is there any appearance of plastic or other substance by which the disintegrating process could be restricted or impaired. On comparing this substance from the surface of the ulcer with the deeper and healthier tissues of the womb, I am led to infer that the difference found in the two depends on a process of decay or disintegration, taking place slowly, without any capability of the surrounding parts to restrict the process, or to restrain its effects. On what this want of power depends, or what may have been the primary exciting cause of the disease, are subjects of interesting inquiry."

In this latter remark of Dr. Quain, Dr. H. Bennet fully agreed; and he thought the results of the microscopical examination of this case of corroding ulcer of the uterus would be listened to with interest, as he was not aware that this most valuable mode of investigating the intimate structural nature of disease in the animal tissues had been applied to this affection. Prof. Bennett, of Edinburgh, classed it among the epithelial cancroid growths, but did not appear to have examined it. The crystals might be owing to the contact of the urine, as had just been suggested to him. It would be observed, that mention was made of filaments of cellular tissue evident at the ulcerated edge of the uterus. Their presence proved that disease developed cellular tissue in the morbid uterus, so as to render it recognisable; but not that it exists in a demonstrable form in the unimpregnated uterus, although such might be the case. It was for histologists to decide this point. M. Jobert de Lamballe, whom Dr. Bennet had quoted in his work on Uterine Inflammation, had not found it; but he believed that M. Jobert did not use the microscope. The question to examine, therefore, was, whether cellular tissue existed in a demonstrable form in the unimpregnated *healthy* uterus, or merely in an elementary nón-recognisable state.

Dr. TILT read a paper on

Diarrhœa as a hitherto Unnoticed Symptom of Menstruation, and on the Use of Purgatives at the different Epochs of the Menstrual Function.

He premised that, Friend and Brierre de Boismont not having given a description catamenial diarrhœa in their works, he concluded it was not generally known to the professsion. He then inquired into the nature and frequency of catamenial diarrhœa; whether it occur—

1. At the prodroma of menstruation.
2. During its regular establishment.
3. At its cessation.

1st. As a symptom of the prodroma menstration diarrhœa rarely occurs; according to Dr. Tilt's observations, only in 161 cases.

2dly. As a symptom of regularly established menstruation it occurred in instances out of 161 women carefully interrogated as to this point. In these 88 cases it *preceded* the menstrual flow in 45; accompanied it in 31; *both preceded and accompanied* it in 10; and in 2 instances habitually for two days *followed* it. In the cases of precursory diarrhœa the were in general costive until the cessation of the catamenia.

3dly. As a symptom of menstruation at its cessation diarrhœa was much less frequent than is generally believed, occurring in 1 per cent. only of such cases.

The diarrhœa is generally unattended by pain, but sometimes preceded for two or three days by nausea and slight colics: in one case these symptoms lasted eight days previously to the diarrhœa. When it occurs at the change of life, it generally appears at irregular intervals. It may, however adopt the regularity of the catamenia. As a general rule, when diarrhœa has habitually accompanied menstruation, there is, at the change of life, a gradual diminution, and ultimately cessation, of *both* discharges. As a prodromic symptom diarrhœa scarcely ever occurs. It is found in 8 per cent. of cessation cases, and a very frequent precursory symptom of fully established menstruation. He therefore drew the physiological conclusion, that for the performance of menstruation the ovaries not only determine their secretion from the womb, but often call into consentaneous action most of the organs which, being subservient to nutrition, are supplied by the same ganglionic system, and particularly the intestines, with which they are in such close juxtaposition. He then proceeded to the rules which he thought should be adopted in the administration of purgatives:—

1. During the prodroma.
2. During the regular establishment.
3. At the cessation of menstruation.

1st. *Use of purgatives during the prodroma.*—Dr. Tilt concluded, from the rarity of this function being preceded by diarrhœa, that nature does not indicate purgatives at this period, while experience has proved the painful consequences frequently entailed by their being administered as emmenagogues.

2dly. *Use of purgatives during fully established menstruation.*—In this stage Dr. Tilt considers they may be given with advantage in serious organic or uterine lesion contra-indicating their use, the great point being so to give them as not to interfere with the menstrual type. As this cannot be done with impunity in the majority of women, brisk purgatives given a few days before the menstrual epoch often anticipate it by several days, and thus vex nature in one of her most constant laws. Previously, therefore, to their exhibition, an inquiry should be made as to the number of days the diarrhœa usually precedes the menstruation; or, if the patient has not that symptom, the date of appearance of other menstrual symptoms will be a sure guide as to the fit time for giving purgatives.

Dr. Tilt next indicated the value of purgatives in amenorrhœa and chlorosis. He does not confide in them alone, but they only form the initial part of the treatment. He first gives an emeto-cathartic, and then steel and bitters. If the appetite does not improve, and the bowels remain sluggish, he omits the tonic treatment, and gives another emeto-cathartic.

Dr. Tilt is of opinion that purgatives given just before the menstrual epoch are injudicious, as they might increase the flow nature seeks to diminish, but recommends the frequent use of mild aperients to diminish the plethora of the abdominal viscera. Purgatives should also be given after the *expiration* of menstruation, with the same view.

Dr. Tilt frequently orders 5 or 10 grains of the soap and aloes pill before dinner, and states that he has never seen hæmorrhoidal affections caused by the use of this pill, but often relieved. He also often administers flowers of sulphur alone, or else with an admixture of sesquicarbonate or biborate of soda, in the proportion of ʒj. to ℥j., and sometimes with the addition of 5 to 10 grains of ipecacuanha: of this powder the dose is ℈j. ad ℈ij. once a day in milk.

In the discussion that followed, the connection of diarrhœa with menstruation was shown not to be an entirely novel observation. Some of the speakers considered it to be indicative of a morbid condition of the uterus, and others as a revulsive to the uterine secretion. Dr. Tilt's opinions were supported by few of the Fellows who spoke on the question.

It was also argued that the number of observations was too small to enable the author of the paper to discover a natural law, one Fellow (Dr. King) asserting that statists had agreed that at least ten thousand observations of a vital phenomenon were required before the law regulating such vital phenomenon could be safely deduced.

It was stated that Dr. Butler Lane had published a paper, proving, from 200 observations, that *constipation* was the attendant upon menstruation.

Objections were also offered to the exhibition of aloes, as being productive of hæmorrhoids.

Dr. Tilt, in reply, said that he brought forward the results he had already obtained with the full knowledge of their imperfect form, in the hope of testing their value by the experience of others. He had learned with pleasure that Dr. Butler Lane had deemed the subject worthy of investigation, and he owned that he had derived information from the present discussion; while he regretted that he had not met several objections by stating in his paper the manner in which he had conducted his inquiry. His statements did not refer to *diseased*, but truthfully represented the phenomena of *healthy* menstruation, and could stand the physiological deductions he had drawn from them; for he had long been in the habit of inquiring from all the female patients who sought his advice what was the habitual state of the menstrual function during their period of health. Chlorotic patients, whom he invariably found subject to constipation, or those labouring from severe uterine disease (in whom, as Dr. Bennett had stated, diarrhœa existed, and often assumed a morbid intensity proportioned to that of the disease), were carefully excluded from the 161 cases. Such facts, as well as the judicious observations of Dr. Murphy and Dr. Hunt, confirmed Dr. Tilt in his views. He regretted the impossibility of reconciling the discrepancies of those who had spoken on the properties of aloes, being himself in the constant habit of prescribing the aloes and soap pill at dinner-time as an eccaprotic. He had never seen it produce hæmorrhoidal affections; and he maintained that those whose opinions were at variance with his own must have given it in a different manner, in larger quantities, and to patients predisposed to such affection.

March 1, 1851.

The ballot for the election of officers of the Society was opened at seven o'clock, and closed at eight o'clock. The result will not be declared until next week.

Congenital Deficiency of the Anterior Walls of the Abdomen and of the Bladder.

Mr. T. H. **Wakley** brought before the Society an example of the above deformity. The posterior wall of the bladder, the apertures of the ureters being visible upon it, protruded in the form of a crimson tumor from the lower part of the abdomen immediately above the pubes, having a diameter of about three inches. The surrounding skin was of a purplish hue; the lower part of the tumor bulged over, and lay in contact with the upper surface of a rudimentary penis flanked on either side by a fully developed testicle, while the scrotum below was corrugated and empty. The *stillicidum urinæ* consequent upon this abnormality was the cause of the most distressing inconvenience to the unfortunate subject of it. The irritation and pain occasioned by the exposure of the delicate, vascular, and sensitive mucous surface was oftentimes of a very severe character. A cast had been taken, and Mr. Coxeter had by working from it produced a shield which at once protected the part, and served to convey the urine into a fitting receptacle, in a most complete manner: but the patient was so desirous of having something done, that Mr. Wakley had determined upon attempting to cover the tumor with natural tissue upon Taliacotian principles, promising to lay before the Society the results of his endeavours.

Shrinking of the Antrum of Highmore.

Mr. **White Cooper**, after some observations upon the importance of recording the result of one's experience for the benefit of one's fellow labourers in the field of medical science, stated that he had in vain searched for any account of a case similar to the one he had the pleasure of bringing before the Society. In May 1850 a young Irishwoman applied to him complaining of a trickling of the tears over the face on the left side; no pain or other inconvenience was mentioned or existed. None of the usual causes of *stillicidum lachrymarum* were detected, but it was observed that the left side of the face was much less prominent than the opposite one; and a discolouration of the skin spread downwards towards the angle of the mouth of a tint resembling the dark areola often observed beneath the eyelid. On examining the mouth several of the teeth on the shrunken side were found to be decayed. Two of those most affected were, with the approval of Mr. Alfred Canton, removed by that gentleman. No unusual amount of disease was discovered about the fangs of the teeth. In January, 1851, the patient was examined: the affected side had continued to shrink, but no other further change had taken place, the patient's health continuing good. Mr. White Cooper expressed the difficulty he felt at arriving at anything like a conclusion as to the cause of the deformity. (A cast of the face, and a drawing shewing the discolouration, were offered for inspection.)

Mr. **Chippendale** suggested that the closure of the entrance of the antrum to the nasal fossa the pressure of the atmosphere was the cause of the shrinking. In support this view he drew attention to the fact that when the Eustachian tube became obstructed the membrana tympani is found to bulge inwards.

Mr. **Edwin Canton** believed in the possibility of the existence at some former period of a vascular tumor within the antrum which had undergone spontaneous cure, and by being attached behind to dragged by its contractions the more yielding anterior wall of the antrum.

EPIDEMIOLOGICAL SOCIETY.

March 3, 1851.

THE PRESIDENT IN THE CHAIR.

ON Monday, the 3d instant, the fourth ordinary meeting of this Society was held at the house of the Royal Medical and Chirurgical Society in Berners Street. Officers having been nominated for the ensuing year,

Dr. M'WILLIAM read a paper

On the Yellow Fever Epidemy in the Brazils in the Year 1849.

The paper contained many strong illustrations of the contagious nature of this disease, which, in the spirited discussion which followed, were combated by Mr. Baker, a visitor, who appeared to doubt the validity of the evidence on which the author had adduced some of his most important facts. The question assumed an interest and importance which was considered sufficient to warrant an adjournment of the discussion to the meeting in April.

ACADEMY OF MEDICINE, PARIS.

Feb. 17, 1851.

Extraction of Foreign Bodies from the Bladder.

M. LEROY D'ETIOLES addressed a note, in which he stated that he had, previously to M. Courty, practised the method of bending long thin foreign bodies in the bladder so that their two points should be directed backwards; and that he had contrived instruments especially adapted to this object. These contrivances, M. Leroy d'Etioles observed, had not been properly appreciated, owing to the "Report" of the Academy, which, in Sept. 1842, declared that the lateral operation, as for lithotomy, was preferable to any other means for the removal of foreign bodies from the bladder. M. Leroy d'Etioles protested against this conclusion, and stated that since the above date he had extracted foreign bodies,—*e. g.* pins, needles, bougies, &c.—from the bladders of fourteen individuals, by the urethra, without having had recourse to incisions. The instruments that he had employed varied according to the substance to be removed. These instruments were submitted to the notice of the Academy.

Goitre and Cretinism.

A discussion took place on M. Ferrus' work upon these diseases, and was conluded by the resolution to forward the work to the Minister of Commerce, with a eport of the discussion; and also to nomiate a Commission to prepare a complete port on these diseases.

Hospital and Infirmary Reports.

HOPITAL STE. MARGUERITE, PARIS.

Case of General Neuralgia. Under the care of M. VALLEIX.

SINCE the publication of M. Valleix's observations on Four Cases of General Neuralgia, published in 1848, no other cases have been recorded in the hospitals. Although the affection is rarely met with, five cases have occurred within the past year at the Hôpital Ste. Marguerite: these five instances occurred in men. The present remarks relate to the case of a woman, the first instance of the kind which has been met with in the female sex.

CASE.—M. Girardot entered the hospital on the 12th November, 1850. She was a cotton-spinner, forty-four years of age, a large, well-made woman, with brown eyes, dark chesnut hair, fair complexion, and a countenance devoid of expression; moderately stout, and of a sanguineo-nervous temperament. She was married at the age of twenty-two years. Menstruation had appeared early, and had always occurred regularly. She had once had leucorrhœa for two months when a young girl. She had had two children, both of which she had suckled. Nothing particular had occurred in her confinements. Her last pregnancy terminated with abortion at three months. An examinatien of the uterus could detect nothing abnormal. She stated that, when sixteen years of age, she had suffered hysterical attacks in consequence of a fright; that she had once experienced an hysterical fit since her marriage.

She lived in a damp unhealthy room, and was badly fed. She drank no more than one bottle of *vin ordinaire* in about a fortnight. She had never indulged in venereal excesses.

About two years ago she first suffered from severe pain in the left shoulder, then from dropsy, and afterwards from insanity, from which she perfectly recovered in less than twelve months. Since that period, until lately, she had had good health, with the exception of pain in the left shoulder, from exposure to cold: this pain had lasted eight days, and had extended first to the head, and then to the trunk and extremities. At the time of admission the pains manifested themselves every ten minutes or quarter of an hour. Besides these general pains, there was a tenderness of the surface on pressure in certain parts—*e. g.*, in the course of the fifth pair of nerves, along the vertebral column, in the hollow of the axillæ, in the course of the radial and ulnar nerves, on the thumb of the right hand, in the ninth, tenth, and eleventh intercostal spaces of the left side, in all the intercostal spaces of the right side except the three superior; in the loins, extending forwards to the inguinal ring, on the labia, on the internal half of the crests of the ilia on both sides, on the nates at the exit of the sciatic nerves, over the trochanter major, along the surface of the thigh, on the posterior aspect of the leg, and on the sole of the foot. The sensibility of the surface was not otherwise impaired. The sight had been weak during five months, and she had been nearly deaf for three years. The organs of taste and smell retained their integrity.

When a person's hands were extended towards the patient, she trembled extremely. This phenomenon, she said, had only existed eight days. Her limbs were so feeble that she could not walk for more than a few minutes. Her right arm was less feeble than the left. She experienced continual noises in the ears, by which she was almost stunned, either sitting or walking. The latter act was very imperfectly performed, the limbs being dragged after her, and she frequently reeled and staggered. She often complained of tingling in the feet and cramps in the legs; and, when she rose from her seat, she was distressed by a painful sense of distension at the epigastrium.

The temperature of the surface was natural; the pulse calm and quiet; the heart's sound healthy; no bruit was audible in the carotids; the respiration was perfect; the abdomen soft; digestion well performed; the bowels acting regularly; urinary excretion normal: in short, all the functions were performed as usual.

Treatment.—From the 12th to the 17th November the patient had three sulphur vapour baths, without any benefit. On the 20th November, M. Valleix practised transcurrent cauterisation over the chief nervous trunks of the body, not excepting those of the head. The patient being put under the influence of chloroform, the cauterised parts were afterwards covered with moistened compresses. In the afternoon there was no amelioration: she was somewhat drowsy, which was attributed to the action of the chloroform. She could not turn in bed, on account of the pain occasioned by the burns.

Nov. 21st.—A decided improvement had taken place. The patient could turn in bed without pain. The paroxysms of pain were less frequent and less severe. She did not complain of the tingling of the feet, nor of cramps, and she had no pain in the head.

24th.—The symptoms continued much the same. As the patient appeared somewhat anæmic, carbonate of iron was administered.

On the 3d December the cautery was again applied. Improvement followed thereon. By the 11th December all the symptoms had disappeared. On the 14th she was discharged cured.

REFLECTIONS.—The case here related is in every respect similar to the five cases in men, previously recorded by M. Valleix. The course of the disease in all had been slow. The last case presented a greater number of painful points than the other cases, more especially in the course of the lumbar nerves and their branches to the labia.

With reference to treatment, the above case speaks for itself, as to the advantage of cauterisation, over any other treatment

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Medical Trials and Inquests.

CORRECTIONAL TRIBUNAL OF PARIS.

Jan. 18, 1851.

PRESIDENT, M. FLEURY.

Homicide through imprudence—Poison with Laudanum.

IN the month of October 1850, M. Lab post-master, at Alfort, being indispo was attended by M. Deguise. The illn was slight, and M. Labbè had contin perform his duties as usual. Being seiz however, one day, with severe pain in bowels, M. Deguise prescribed for his p tient an opiate enema. By an unfortu mistake, M. Deguise, instead of prescrib as he had intended, ten drops of Syd ham's Laudanum, wrote ten grammes 2·57 Eng. drachms). The prescrip was prepared accordingly, and the medi administered. In half an hour aft wards the nurse became alarmed at symptoms that occurred, and she su moned M. Deguise and the friends of Labbè. When they arrived, it was evid that M. Labbè was in a state of narco M. Deguise had recourse to means wh seemed for a time to overcome the effe the opium. On the following morning Labbè had lost all drowsiness, passed a q day, but died in the course of the follo night.

The question to be determined w whether M. Labbè had died through imprudence of the medical attendan prescribing a large and unusual dose of opium, or from natural causes. MM. Cruveilhier, Devergie, and Rayer, drew up a report in which they concluded that the deceased had not died from poison. They rested their opinions on the previous ill health of the deceased, and on the interval which had elapsed between the subsidence of all symptoms of poisoning, and the subsequent death. They argued that, the cause having ceased to be in operation, later effects could not justly be attributed to it.

Notwithstanding this report, M. Deguise was cited before the court under the charge of homicide through imprudence.

[The following is a condensed abstract of the evidence and opinions given at the trial.]

M. E. **Renault**, director of the Veterinary School of Alfort, stated that he was acquainted with the deceased, who had been suffering from fever since the beginning of October, for which he had been attended by M. Deguise. He had seen M. Labbè on the evening preceding his death; he was then drowsy, and said "I am going to sleep; good night!" Towards two o'clock the next morning he was summoned to him in haste, and found him unconscious. On his way to him he had called upon the *pharmacien* who compounded the prescription, and then discovered the fatal error. On reading the mistake to M. Deguise, the latter manifested the most acute sorrow, and even shed tears. M. Rayer, whom he had sent for, arrived soon afterwards. M. Labbè had somewhat revived. M. Rayer prescribed strong coffee, and aloetic purgatives. In answer to inquiries from M. Renault, M. Rayer observed that, if the pulse did not increase in power, M. Labbè would die. Everything was done to rally the circulation. Strong coffee, and brandy, were given frequently, and cold water applied to the head. It being necessary to remove him to another bed, M. Renault observed that he was entirely powerless. His intellect remained clear, and he was even cheerful during the day.

In answer to a question by the President, M. Renault stated that he attributed death o the laudanum administered. He had ince experimented upon animals with the ame drug.

M. **Rayer** repeated some of the statements of M. Renault, and deposed that, when he saw the deceased, all signs of narotism had passed away, although a state f extreme depression continued. This ondition might be attributed to the aborption of opium, but might arise also in ther conditions of body; and it was at rst supposed by him, in the present case, o be the result of typhus.

The **President** inquired of M. Rayer whether an enema of vinegar, which had been administered by M. Deguise, would not have tended to promote the absorption of the morphia out of the laudanum? M. Rayer observed that, the opium having been already absorbed, no injury would follow the use of the vinegar.

Dr. A. **Devergie** did not regard the death as the result of poisoning, but as the effect of the fever. He drew attention to the long period of freedom from symptoms of narcotism as confirmatory of this opinion.

M. H. **Delafosse**, a professor in the school at Alfort, gave it as his opinion that death resulted from the poisonous effects of opium. He stated that, in experiments made upon animals, he had witnessed similar periods of freedom from symptoms of narcotism, preceding death.

M. **Lassaigne** stated similar results of experiments made upon dogs, and concurred in the opinion of M. Delafosse.

M. **Orfila** referred to the history of the case, as given to him by M. Deguise, and stated that he could not but regard the lengthened period of recovery from cerebral symptoms which had occurred, as evidence that the poisonous effects of opium had passed off. Opinm belonged, M. Orfila added, to that class of poisons the action of which is continuous (?). The death of M. Labbè might be attributed to other causes, without asserting that the absorption of opium did not at all contribute thereto.

In answer to a question by the President, M. Orfila observed that, although the state of narcotism had passed away, yet it was proper practice to have continued the use of vinegar, as it was a principle to continue the use of any medicine found to be useful in a particular instance. The opium having been previously absorbed, vinegar was an excellent remedy.

With regard to contraction of the pupil, M. Orfila admitted that, although a symptom of narcotism, yet it is often the result of other diseased states; and, in the present case, it had not been constantly observed.

With regard to the depression of the pulse, M. Orfila stated that, in poisoning by opium, the pulse is frequently full, as described by all authorities on the subject. As a scientific man, he could not say that M. Labbè had died from the effects of opium, but from those of a serious malady in a previously enfeebled constitution; he could not say that the enema had not contributed to the fatal termination.

M. **Berard**, Dean of the Faculty of Medicine, said that, having known M. Labbè's state of health, he was less surprised than grieved to hear of his death. With regard to the effects of the opium, the opinions of M. Bérard were the same as those of M. Orfila.

M. **DEGUISE** having been called upon for any remarks he had to make in defence, stated his long acquaintance with M. Labbé, referring to the fatal illness as one of long standing, and detailed the pains he had taken to administer to his case. On the subject of the unfortunate prescription, he added, with great emotion—"My mouth said ten drops, and my pen wrote ten grammes; it is a fatal mistake, which I have to deplore." He observed that, when a person is under the entire dominion of one thought, he thinks he is acting in strict accordance therewith. M. Deguise dwelt upon the pains he had taken to remedy the mistake, and concluded by asserting that M. Labbé "had died by the lungs, and not by the brain; and, therefore, that the opiate enema was not the cause of his death."

M. **DUVERGIER**, advocate for M. Deguise, dwelt upon the report of the three physicians above named, part of which he read in court, and maintained that, as there was evidence that M. Labbé had not died from the effects of the laudanum, he was not amenable to the law under which he had been brought to trial.

The Court, however, having deliberated for one hour, declared M. Deguise to be guilty of "Homicide by imprudence;" but, considering the great care and attention bestowed by M. Deguise upon his friend, the Court granted him the benefit of Article 463, and condemned him to fifteen days' imprisonment, a fine of five hundred francs, and the costs.

⁂ We think that the Court came to a right decision, although adverse to the general bearing of the medical evidence. Several cases are recorded in which death has taken place from the effects of opium, notwithstanding the occurrence of a remission of symptoms. A very remarkable instance of this kind is reported by Mr. Kirby in the *Dublin Medical Press* for December 24, 1845, p. 406. In this case one ounce of laudanum was swallowed. The individual recovered her consciousness, but subsequently died, complaining of great oppression in breathing. The action of opium is not, therefore (as was asserted by Orfila), in all cases continuous.

Correspondence.

EFFICACY OF KOUSSO IN THE TREATMENT OF TAPE-WORM.

SIR,—As it is only by multiplying th reports of successful cases that the value o any new medicine can be accurately dete mined, I beg to contribute my mite in fa vour of the virtues of kousso as an anthe mintic for tænia.

CASE.—Mr. P. consulted me on accou of the sufferings produced by this wor He informed me that for some time pa he had passed joints of tænia. His ailme consisted principally of a great sens prostration in the epigastrium, aching pa in his limbs, debility, nervousness, u unfitness for his duties, and a general fe ing of *malaise*. He had some obscure a transient pains about the umbilicus. I bowels were habitually relaxed, and his ap petite bad. He had some time back tak turpentine, and considered that it h benefited him, although it had never d more than expel separate joints of tænia. Latterly he had taken such aversion to that medicine, that not would induce him to repeat it.

Kousso was obtained from Hooper's Pall Mall, and administered in the fo ing manner, according to the direct transmitted with the drug.

The patient was limited for two day gruel. On the evening of the secon he took ℥ss. of castor oil. The next m ing he took ʒvj. of the kousso (infuse half a pint of lukewarm water for a qu of an hour), drinking the whole p with the water. This rather dose was washed down by lemo and water. It produced a sligh gree of nausea, probably from its bulk. the bowels had not operated four h afterwards, he took ℥ss. of castor Shortly afterwards the worm came aw the motion. It was passed rolled up ball. It was found to measure six The head, unfortunately, could not be covered; but as the worm was some torn while being unravelled, it is pos it may have been pulled off. The man in which the worm came away would one to suppose that it had passed The medicine operated most mildly, the patient expressed himself willing at time to repeat the dose.

I am, your obedient servant,

EDWARD WELLS, M.

Reading, Feb. 26, 1851.

REGISTRATION OF DEATHS BY MEDICAL MEN.

SIR,—I shall feel obliged by your inserting the following letter, giving me an answer on the subject.

"A patient is brought to my Surgery for advice whom I have never seen before; I prescribe some medicines, but am not consulted again. A month afterwards the patient dies, and the Registrar demands *from me* a certificate of the cause of death," &c. &c.

I should be glad to know, through the medium of your columns, by what law I am *compelled to give* a certificate of the death of any *casual* patient who may happen to consult me; and whether it is *imperative* in the case of a medical man's *private patients*, who happen to die, that a written form signed by him should be given? In the large number of patients attended by a consulting surgeon, it appears to me to be an unfair advantage taken, to expect him to state the "cause of death," without any sort of remuneration for his time and trouble, and with a threat from the Registrar of an action, if he refuses to comply with the order.—Your answer to the above will greatly oblige,

Yours, &c. &c.,
A COUNTRY SURGEON.

⁂ When a patient has been casually seen only once by a medical man, a month before death, it is unreasonable to expect that he can give a proper certificate without making due inquiry into the patient's condition immediately before death. He is not bound to do this by law without remuneration. With regard to signing the papers in the cases of private patients attended by the practitioner until death, we think there is less doubt. It is a duty which the law requires of a medical man without remuneration.

Medical Intelligence.

THE HUNTERIAN MUSEUM.

A COPY of a resolution passed by the trustees of the Hunterian Museum, in February, 1846, relative to the means of enlarging the space for receiving and exhibiting the collections, has been laid before the House. The resolution moves that the Marquis of Northampton and the Bishop of London be requested to submit to the First Lord of the Treasury the claims of the Hunterian Museum to some provision whereby it might obtain an enlarged area for its contents, and be enabled to maintain itself worthily "as the great national depository of the branches of knowledge which it has been instituted to promote."

THE GERMAN HOSPITAL.

THE anniversary festival of this charity took place recently at the London Tavern. His Royal Highness the Duke of Cambridge presided, and discharged the duties of chairman in a very efficient manner. In proposing the toast of the evening, after a few appropriate preliminary observations, he stated that from the limited extent of the hospital the number of indoor patients had not much increased—that number was 419 in 1848, 474 in 1849, and 494 in 1850. The outdoor relief afforded to applicants exhibited the most marked progress. At the Western Dispensary, in 1848, 48 patients had been treated; in 1849, 149; and in 1850, 256. At the Eastern Dispensary the number relieved within the same periods respectively had been 804, 960, and 1,246, and at the Dispensary attached to the hospital 1,176, 1,786, and 2,278. Of the total number of cases 1,530 were those of Englishmen; so that in attending to the destitute sick of Germany the wants of the suffering poor of our own country were not overlooked. Since the establishment of the hospital its benefits had been extended to 15,581 persons. Referring to the subjects of ways and means, his Royal Highness pointed out the inadequacy of the resources which the institution possessed, and strongly urged the company to contribute liberally to so praiseworthy an object. His appeal was responded to by subscriptions amounting to nearly £2,000.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 21st instant:—Messrs. W. J. Broadwater—T. C. Beale—A. D. White—E. Bishop—W. F. J. Turner—J. Brady—J. D. Baker—J. Roulston—C. King—T. J. Vallance—W. H. Sheehy.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their Examination in the Science and Practice of Medicine, and received Certificates to Practise, on Thursday, 27th February, 1851:—Henry Walker, Ludlow, Salop; William Falshaw, Haslingden, Lancashire; Nevill Jackson, Stamford, Lincolnshire.

VACCINATION AS A PREVENTIVE OF SMALL-POX. BY DR. ALEXANDER KNOX.

THE most important practical deductions, suggested by a careful reconsideration of the whole subject, may be briefly embodied in the following recapitulation, which the writer begs leave earnestly to commend, with all due respect, to the consideration of his professional brethren. Should the views which he has advocated be found to contribute in the slightest degree, to reassure the public confidence in the protective influence of cow-pock, and to promote the more general and careful practice of vaccination, his object will have been amply attained.

1. It appears to have been satisfactorily demonstrated, that secondary vaccinations have succeeded in a considerable proportion of the cases, in which they have been resorted to.

2. It also appears, that small-pox has prevailed of late years to an increased extent.

3. The results in question have been attributed, partly to a diminution of energy in the vaccine infection, caused by repeated transmission through the human subject, and partly to the alleged tendency of the immunity conferred by cow-pock to wear out of the system, after an uncertain period from the date of vaccination.

4. Both the success of revaccination, and the increased prevalence of casual small-pox, appear, however, to have been exaggerated in the popular belief; and, at any rate, the facts seem applicable, in a great measure, without resorting to the hypothesis just stated, by attributing them in part to the imperfect performance, or the entire neglect of vaccination, in part to the temporary tendency to increased diffusion, at distant and uncertain periods of time, which characterises all epidemic diseases, and, finally, to peculiarities of constitutions, which render many individuals absolutely insusceptible of being protected against a secondary attack, either by vaccination or by inoculated or natural small-pox.

5. It has been proposed to re-introduce variolous inoculation as a certain remedy for the occasional failure of vaccination; but the superior efficacy of the practice is not only questionable, but its indiscriminate employment has been proved to be dangerous, and destructive of human life, and is therefore highly to be deprecated.

6. Revaccination, however, may be prudently recommended, not only as innocuous in itself, but also, on various grounds, as positively advantageous, even by those who question the gradual extinction of the productive influence of cow-pock.

7. It does not appear that genuine vaccination has lost any of the efficacy which at any time really appertained to it; and it still remains to be demonstrated that it is not capable of conferring, to the end of life, complete immunity from the horrors of small-pox, on a large majority of all the individuals fully submitted to its influence.

8. Even where vaccination fails to prevent a secondary attack, the consecutive disease, in general, assumes a mild and modified form, although, in some instances, it may be sufficiently severe to leave the countenance marked with scars, and still more rarely to terminate in death: but fatal cases from secondary small-pox do not seem to be more frequent after vaccination, than after a primary attack of the natural disease.

9. On the whole, it is respectfully maintained, that cow-pock, imparted in the most efficient manner of which it is capable by vaccination, and, under certain circumstances, by revaccination, is the most eligible safeguard, within our power, against small-pox; and that it will prove effectual in most constitutions, not inherently susceptible of protection, by any means whatever.—*London Journal of Medicine.*

BIRTHS & DEATHS IN THE METROP

During the Week ending Saturday, March 1

Births.		Deaths.	
Males	784	Males	[illegible]
Females	807	Females	[illegible]
	1591		1160

CAUSES OF DEATH.

ALL CAUSES	[illegible]
SPECIFIED CAUSES	[illegible]
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	[illegible]
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	[illegible]
2. Brain, Spinal Marrow, Nerves, and Senses	[illegible]
4. Heart and Bloodvessels	[illegible]
5. Lungs and organs of Respiration	[illegible]
6. Stomach, Liver, &c.	[illegible]
7. Diseases of the Kidneys, &c.	[illegible]
8. Childbirth, Diseases of Uterus, &c.	[illegible]
9. Rheumatism, Diseases of Bones, Joints, &c.	[illegible]
10. Skin	[illegible]
11. Premature Birth	[illegible]
12. Old Age	[illegible]
13. Sudden Deaths	[illegible]
14. Violence, Privation, Cold, &c.	[illegible]

The following is a selection of the number of Deaths from the most important special

Small-pox	19	Convulsions	
Measles	36	Bronchitis	
Scarlatina	19	Pneumonia	
Hooping-cough	66	Phthisis	
Diarrhœa	17	Lungs	
Cholera	0	Teething	
Typhus	31	Stomach	
Dropsy	23	Liver	
Hydrocephalus	29	Childbirth	
Apoplexy	29	Uterus	
Paralysis	30		

METEOROLOGICAL SUMMA

Mean Height of the Barometer ....

" " " Thermometer[a] ......

Self-registering do.[b] ....Max. 0·0 Min.

[a] From 12 observations daily. [b] Sun

RAIN, in inches, ·11.—Sum of the daily ob vations taken at 9 o'clock.

Lectures.

NOTES OF

CLINICAL LECTURES

Delivered at Guy's Hospital, Jan. 1851.

By John Hilton, Esq. F.R.S.
Surgeon to the Hospital.

The cause of my detention beyond our usual time of meeting has been a case of strangulated femoral hernia, the particulars of which I will allude to after the case appointed for our consideration to-day, which is headed

Tumor in the Popliteal Region—Malignant (?).

H. M., æt. 23, a single man, of middle stature and pale flabby habit, by occupation a potman, residing at Moorfields, was admitted into the hospital, under Mr. Hilton's care, on December 11th, 1850. States that he has always enjoyed good health from his infancy. About two years since he received a slight blow in the left popliteal region, which, causing him subsequently some pain and tenderness, attracted his attention, and he then for the first time discovered a small swelling about the size of a hazel-nut near the centre of the popliteal space, hard to the touch, placed quite superficially, and freely moveable, not causing him any inconvenience except when handled. From that period it has continued slowly and progressively to increase in size up to six months ago, since which time its growth has been much more rapid. He has never suffered from any pain or throbbing in the part, neither has his walking been impeded in the slightest degree. There was no appearance of a mole over the tumor, or any cutaneous affection, prior to the commencement of the tumor. His family are healthy; there is no evidence of any malignant or other hereditary tendency. On admission, the report states there is a well-defined tumor, about the size of a large orange, situated over the inner and upper part of the left popliteal space: its surface is tolerably regular, but vascular and congested. The tumor is evidently superficial to the fascia lata, being freely moveable when the limb is flexed so as to relax the parts; but, when the knee was extended, it becomes comparatively fixed. The tendons of the inner hamstring muscles can be distinctly felt to pass under the morbid mass, which is not influenced by their movements. The tumor gives a sensation of resistance to the touch, as if of a solid texture; is unaccompanied by any kind of pain except when handled, which causes tenderness and a slight aching pain, altogether occasioning him but little inconvenience. There is no indication either of fluctuation or pulsation; no evidence of concomitant glandular enlargements in the popliteal region in the groin, neither has the growth of the tumor given rise to any constitutional disturbance; indeed, his general health is very good, and appetite excellent. In order to make certain of the precise nature of the disease prior to an operation, Mr. Hilton introduced a grooved exploring needle into the centre of the tumor, but only a small quantity of blood escaped.

Dec. 17th.—Mr. Hilton removed the tumor as follows:—The patient was placed on the operating table on his face, when two vertical and elliptical incisions were extended down the whole length of the tumor, so as to include all the unhealthy skin between them; the healthy skin was then dissected off from the walls of the tumor, which was found closely and somewhat firmly attached at its base to the fascia covering in the popliteal space; but it was separated from this without difficulty by the scalpel. One artery coming through the fascia and supplying the tumor was ligatured; the edges of the wound were then carefully brought and retained in apposition by means of sutures and plasters, whilst the limb was kept extended, so as to prevent all movements, and favour speedy union. The tumor, when cut into, was found to be soft and easily broken down, though not of a pulpy character.

18th.—He has slept well, and feels quite easy; there is no constitutional disturbance; tongue moist and clean; pulse natural.

19th.—He has passed a restless night, but now feels more comfortable. The bowels being confined, he was ordered a dose of Magnesia Mixture.

20th.—He has passed another restless night, and complains of pain and uneasiness about the wound. On examination, the edges were inflamed and very tender; scarcely any adhesion had taken place. His appetite is not so good, slight febrile disturbance, as evidenced by heat of skin, furred tongue, and accelerated pulse. All sutures and plasters were removed.—He was ordered to apply a bread and water poultice, and take a dose of calomel and opium at bed-time, followed by a senna draught in the morning.

21st.—He felt better, and there was much less febrile disturbance. The wound looked more healthy, the redness and tenderness around being diminished.

25th.—The wound looked healthy, and was granulating nicely. The patient's appetite was very good, and he slept well. From this time he continued progressing favourably, and the wound healed rapidly; so that, on January 8th, he was able to walk about, and on the 13th he left the hospital cured.

This case presents several very interesting features for our consideration, both in reference to its diagnosis, pathology, and treatment. The general appearance of the tumor was peculiar, and it was situated in a part where growths presenting similar features are but seldom met with. On reviewing the history and symptoms of the case, and endeavouring by these means to arrive at a correct diagnosis of the tumor, we are quite at a loss to discover any facts or circumstances tending to point out its real nature. We are told that it was discovered accidentally about two years since; the patient's attention being directed to the part in consequence of a slight blow he had received, causing him some pain and soreness. From this time it appears slowly to have increased in size, not causing him any pain or inconvenience except when touched; but for six months past its growth has been much more rapid. This account of the origin and progressive increase of the tumor is certainly of some assistance in forming a diagnosis, though in itself not at all indicative of the nature of the disease. But since the history and symptoms do not materially aid our diagnosis, we are naturally led to make a careful examination of the tumor itself; and, in the first place, with reference to its position, situated as it was in the immediate neighbourhood of very important parts, it became necessary to determine with accuracy whether the tumor was seated beneath or superficial to the fascia lata. Now, judging from the degree of mobility of the tumor, especially when the knee was flexed so as to relax the parts as much as possible—also from the capability of lifting the tumor, as it were, slightly from its bed by traction; and at the same time bearing in mind the fact that the tendons of the inner hamstrings could be distinctly felt passing under the tumor, though evidently having no connection with it; judging from these circumstances, no doubt could be entertained that the tumor was superficial to the fascia lata; for, if it had grown from beneath this very tense and strong fascia, it would have been much less prominent and less moveable, and, in all probability, would have given rise to more severe symptoms and greater inconvenience, from making pressure upon the large nerves and vessels which pass through the popliteal space.

Having ascertained that the tumor was superficial to the fascia lata, the question then arises, what is its real nature; and as there are no positive indications on which to form a diagnosis, let us examine the case by negative evidence,—which, indeed, is very often of great value; for although it is often difficult to say what a disease is, yet on bearing in mind the various diseases which simulate the one under our notice, negative evidence alone will, in many instances, enable you to determine it cannot be this disease, nor it cannot be that, for the symptoms indicative of these affections are wanting. And now let us proceed to apply this mode of examination to the case before us. Could the tumor be an aneurism? There was no pulsation in it; neither was there any evidence to indicate that it either communicated with, or was lying in the neighbourhood of, an artery of any considerable size. Could it be an abscess, which is not at all an uncommon disease in this region, being frequently caused by some irritation or ulceration about the foot, giving rise to absorbent inflammation, and subsequent suppuration of the glands in the popliteal region, with which the lymphatic vessels communicate? the negative evidence tended at once to show that it was not an abscess, by the absence of fluctuation, and the comparative solidity of the tumor. Could it be a fatty tumor? It did not yield that soft and lobulated sensation when handled, so commonly met with in steatoma, whilst the discoloured and vascular state of the superimposed skin is an unhealthy condition which is scarcely ever associated with tumors of this class. Was it a fibrous tumor? Now although the diseased mass gave a sense of solidity to the touch, yet when pressure was made it seemed yielding and elastic, and did not give the hardness and somewhat firm resistance of a fibrous tumor. Was it a follicular tumor of the skin? that is to say, originating in a diseased condition of the sebaceous follicles. The surface of the tumor was carefully examined, but there was no evidence of that small aperture on the surface (showing the outlet of obstructed follicle), which is generally observed in these cases. Was the tumor of a cystic, hydatid, or bursal character? It did not feel at all like a cyst with fluid contents, and it was situated in a part where bursæ do not occur except in connection with the tendons of the ham-string muscles, when they would be placed underneath the fascia: this view was negatived by the tumor not being at all influenced by the movements of the tendons; the general pearance of the tumor itself tended to indicate that it was of a malignant character, for although tolerably even on the surface, the skin was discoloured, vascular, and congested, and the mass under it was solid, though yielding and elastic. Neither the previous history nor present condition of our patient favoured this opinion. The tumor had not been of that rapid growth which one would have expected: the patient's general health was very good. There was no evidence of glandular enlargement, or of a similar disease, in any part of the body; neither had the patient ever suffered any of that lancinating or shooting pain in the tumor so frequently met with in cases of malignant disease; in fact, it was unaccompanied by any kind of pain.

With the intention of aiding the diagnosis by an inspection of the contents of the tumor, I introduced a small grooved exploring needle into its substance; but only a few drops of blood escaped. This mode of procedure, as a means towards a certainty of diagnosis, you will often find of the greatest value in removing obscurity; and let me advise you to adopt it in any and every appropriate case of doubt.

The result of the exploration, in the present instance, tended to indicate that the disease was of a fungoid character. Entertaining such an opinion of the case, it became obvious that the only chance of a successful treatment consisted in the entire removal and extirpation of the tumor by operation, the great object being to endeavour, if possible, entirely to eradicate the disease,—a prospect favourable, to some extent, by the tumor being so defined and circumscribed; tending to show that the morbid growth had not yet protruded through, or extended beyond the confines of its investing capsule, whilst there was no evidence of its having been conveyed to different parts of the system, either through the medium of the veins, lymphatics, or continuous structures, the neighbouring glands being healthy and not enlarged.

In performing the operation, my incision through the skin was made vertical, for the purpose of preventing any subsequent tension being exerted upon the edges of the wound by muscular contraction. This is an important point to bear in mind in all operations about the knee, or, indeed, in any other part where the wound is liable to be influenced by such a force. If a transverse instead of a vertical incision had been made, what would have been the consequence? Why, the least movement of the limb after the operation would have torn out the sutures, and caused forcible separation of the edges of the wound. Operations for removal of the breast require, on precisely similar principles, when practicable, a horizontal or transverse incision; for if the disease were removed by a vertical incision, the edges of the wound would be influenced by the movements of the pectoral muscles, which would render them far more likely to be drawn assunder, than if the incision had been made in the direction of the muscular fibres: a practical consideration, which does not cease with the healing of the wound, as it is a matter of considerable importance that the resulting cicatrix, under such circumstances, should be kept in a condition of repose, and as much removed as possible from tension or irritation by traction during many weeks.

But to return to our case of popliteal tumor. The incisions were elliptical as well as vertical, the object being to remove the unhealthy-looking skin which covered and was adherent to the most prominent part of the tumor. Whenever you have any doubt in your mind respecting the healthy or diseased condition of the superimposed skin, it is always safer and better to remove it at once; for pathological anatomy teaches us that if the skin has become implicated, we cannot hope to eradicate the disease except by its removal: this is more especially called for if the skin puts on the same characters as the accompanying subjacent growth. In the present case the skin presented a very unhealthy appearance, and I thought it would be far safer to remove it than to run any risk of the reappearance of the disease by saving it. But if the skin is not implicated, it is advisable to save as much as possible in the popliteal region, neck, and many other parts of the body, so as not to interfere with the great and varied motions which these parts naturally enjoy in health. If, however, the skin is diseased, whatever may be the result you are perfectly justified in taking it all away.

After dissecting down the healthy integument from the walls of the tumor, the entire mass was found closely connected with the fascia covering in the popliteal space; but from this I had no difficulty in detaching it with the scalpel, and, in doing so, was pleased to find that the growth had not penetrated the fascia: only one artery required ligature; it perforated the fascia, and appeared to form the chief arterial supply for the nourishment of the tumor.

After the operation the edges of the wound were carefully brought into apposition by means of sutures and plasters, to endeavour, if possible, to procure union by the first intention: the febrile symptoms which speedily followed the operation prevented the adhesive process, and the wound suppurated: but it subsequently healed up very favourably by granulation and cicatrization.

The prognosis, if based on the appearance of the tumor prior to operation, must be regarded as unfavourable; but, judging from the patient's general appearance, the entire extirpation of the tumor, and the result of the microscopic examination, I am disposed to give a more favourable prognosis. We cannot with honesty, in a disease presenting even slight malignant characters, assure our patient it will not return; so that the safest and most judicious plan is to give a cautious prognosis. I have lately seen the patient, but there was not the least indication of any return of the disease, and he was perfectly well in every respect.

The primary cause of this morbid growth is not at all clear; the patient states, that there was no mole on the skin, or, indeed, any cutaneous affection, previously. The only thing at all looking like a cause was the slight blow which he received upon the part when the tumor was discovered; but whether the blow, inflicted upon a person of peculiar constitution, was the existing cause, is of course impossible to say.

If a person be of a malignant diathesis, as it is termed, a morbid product may, and does, as we know by experience, appear in any part of the body independent of any obvious local injury; but it does not seem improbable that a blow inflicted on a part, in a person of this unhealthy diathesis, may act in some measure as an exciting cause, and form as it were the nidus or pathogenesis of future disease in that spot. If the tumor is the only source of disease, its early extirpation removes; as far as is possible by surgical means, all chances of its propagation to distant parts through the medium of the veins, lymphatics, or continuous structures; and under such circumstances the patient is placed in the most favourable condition. The aspect of our patient was not at all of that character which is termed malignant; the malignant aspect which you frequently hear spoken of is in truth the effects of a constitutional disease preying upon some of the viscera important to animal life, producing a condition of the system which gives rise to a malignant aspect. Unfortunately we cannot recognize this aspect early, it only occurs in advanced stages of disease,—and even then implicit reliance cannot be placed upon it.

Case of Strangulated Femoral Intestinal Hernia, supervening upon an Irreducible Omental Hernia.

M. B., æt. 58, a married woman, admitted January 13th. In appearance, she is a stout woman, of lax habit, and states has enjoyed general good health up to three years since, when she was admitted into the hospital, under Mr. Key's care, for strangulated femoral hernia on the right side, brought on as she believes by mangling and lifting heavy weights: an operation was performed, and she recovered in five weeks. The hernia has since frequently come down, but has been easily reducible through the patient's own efforts by taxis. She has also been the subject of an umbilical hernia, about the size of an orange, since the above operation, but it has never caused her any inconvenience: three days prior to her admission into the hospital she was seized with dragging pain at the scrobiculus cordis, attended with retching and frequent vomiting; but her bowels were opened on the following day. On the same night the sickness commenced; she discovered a lump about the size of a small egg in the left groin, which caused her pain on pressure; and, as her symptoms increased in urgency, she called in a surgeon, who administered purgatives freely, and employed taxis on the tumor during several hours at intervals, but unsuccessfully. On admission into the hospital, the hernia (a femoral) had been down for three days, was situated in the left groin, about the size of a hen's egg, very tense, unyielding, and painful on pressure: there was frequent retching, and vomiting of a brownish-coloured fluid with a highly feculent odour. She complained of a severe dragging pain at the scrobiculus cordis, and was very thirsty: her countenance evinced considerable anxiety and distress, and the bowels had not been moved for two days. The dresser, Mr. Fuller, employed the taxis, to endeavour to return the hernia, but without producing any marked difference in its size: and, as the tumor was very tender from previous long-continued taxis, he ordered the patient to be placed in a warm bath, and to take two grains of opium immediately. On Mr. Hilton's arrival at the hospital, the vomiting continuing, although less frequent, and the tumor remaining in the same condition as before the use of the bath, he employed manual pressure. The tumor did not yield much at first; but, by continuing a steady and equable pressure for a few minutes, a portion of the hernia passed up into the abdomen, leaving a small hard lump in the sac, feeling like a portion of omentum, irreducible. The patient became relieved almost immediately; her countenance more cheerful; retching, sickness, and pain ceased; and her bowels were freely relieved about one hour after the reduction of the intestine. The feculent matter apparently came from both large and small intestines, and resembled very much the fluid which had been previously vomited. For the purpose of endeavouring, if possible, to cause the return into the abdomen of the omentum which was still in the sac, a bladder containing broken ice was applied to the

After the evacuation, which followed quickly upon the reduction of the intestine, no more relief was obtained during the subsequent five days. There was, however, no return of any of the urgent symptoms which she had experienced before her admission into the hospital, and she was free from inconvenience. Three colocynth and calomel pills were given to her on the fifth day, followed the next morning by castor oil, which acted freely on her bowels, and from that time they continued to act regularly. On January 28th she left the hospital quite well, but with the omentum irreducible.

The hernia in this case occurred in a woman of remarkably lax fibre, with a pendulous abdomen—a person, indeed, whom you would expect naturally predisposed to hernia; an opinion confirmed by the presence of two other herniæ at the same time, a femoral on the right side, and an umbilical. The femoral hernia, which was strangulated, and gave rise to the urgent symptoms for which she was admitted into the hospital, was apparently of recent date, as the patient only discovered the existence of a tumor in the left groin after the symptoms commenced, about three days since. The recent formation of the hernia probably affords some explanation of the severity with which the symptoms began, and continued up to the date of her admission.

A Femoral hernia, of small size, generally produces more severe and distressing symptoms than inguinal; which is explained by the greater degree of constriction in femoral hernia around the neck of the sac, owing to the dense and unyielding nature of the surrounding tissues. The most distressing symptom from which the patient suffered was the frequent vomiting and dragging pain at the scrobiculus cordis; she vomited matter, being of a brownish colour, and highly feculent odour. This fetid condition is the result of the contents of the small intestines above the obstruction being retained during many hours; the reverse peristaltic action carries it into the stomach, from which it becomes immediately ejected. Judging from the early appearance of vomiting as a symptom in this case, from the little distension of the abdomen, and the small quantity of fluid vomited, we may infer that the strangulated portion of intestine was not very far removed from the stomach.

The means employed for the reduction of the hernia consisted in the employment of the taxis, the use of the warm bath, and the application of ice. The taxis appears to have been employed for a considerable period, and probably with great energy, before the patient was admitted into the hospital; and as it is often attempted without due regard being paid to the proper mode in which the taxis should be applied, I will explain to you what may be deemed the best method of its employment.

Applying these remarks to a case of femoral hernia, let the thigh of the same side be first extended, or placed flat upon the bed, so as to render the tumor prominent: this position enables you to examine, feel, and embrace accurately the whole of the swelling with the first and second fingers and thumb of both hands, the fingers being upon the upper, and the thumbs upon the lower part of the tumor: having thus obtained a complete and secure hold upon the protrusion, let the thigh be flexed upon the abdomen and inverted for the purpose of relaxing the fascia lata, and especially the saphenous opening through which the hernia has passed. These preliminary steps having been taken, the next object should be to employ the taxis, but with caution, avoiding all impetuous, violent, or jerking efforts at reduction, as your intention will be better and more safely acquired by perseverance, than by the use of any sudden force, in a direction towards the crural ring, by making gradual, equable, and diffused pressure over every part of the hernia, continuing it steadily during several minutes. If the hernia yields in any degree to the pressure, and becomes diminished in bulk, do not relax, but continue the pressure until the contents of the sac have receded, and returned into the abdomen; the intention of the pressure being to diminish the hernia to such a size, that the whole, or part of it, may become smaller than the aperture by which it had passed from the abdomen. A most important auxiliary for the reduction of a hernia, and which was used in the present case, is the hot bath. It diminishes the muscular power of the patient, allays any spasm that may exist, and at the same time relaxes the parts, which prevents the return of the intestine. Indeed, in many cases, taking advantage of this condition, the employment of the taxis whilst the patient lies in the bath is frequently quite sufficient to reduce the hernia. A large dose of opium, which was given to the patient immediately after the bath, is a remedy of the greatest value; it tends to allay the pain and vomiting, so distressing in strangulated hernia, and favours the return of the gut by relaxing the abdominal muscles, which, during the act of vomiting, are in a rigid state, and thus form a powerful antagonist to the return of the protruded parts. Opiates, in large doses, have occasionally been found sufficient to effect the return of a hernia without any further treatment. They cannot, however, be relied upon alone with any degree of certainty, especially if the hernia be of small size and tightly strangulated.

A case shewing for how long a period life may be prolonged, even with a tightly strangulated femoral hernia, by the constant exhibition of small doses of opium, came under my care in the hospital during the past summer. The patient, a woman advanced in life (some 50 or 60 years of age), was the subject of a femoral hernia, which had been down some two or three days prior to admission, and was remarkably tense and unyielding; her vomiting was frequent, with obstinate constipation, and an operation was imperatively called for immediately on her admission.

Her condition was explained to her, but all entreaties and reasoning failed to prevail upon her to submit to the operation, her answer being that she would sooner die. As the last resource, taxis and other means having failed, she was ordered a large dose of opium immediately, to be followed by smaller doses at stated intervals of every two or three hours, so as to keep her constantly under the influence of the drug.

By this mode of treatment her distressing symptoms were greatly alleviated; she lingered on without any severe return of them for a period of 13 days. A post-mortem examination revealed a tightly strangulated femoral hernia, with very slight evidence of peritonitis. Indeed, the patient seemed to have died from the effects of exhaustion, rather than the disease.

Cold applied to a strangulated hernia is often of great value; it generally relieves pain, and causes the skin and integuments over the tumor to contract equally in every direction: it also acts upon the gut itself, causing contraction of its coats upon the fæculent contents, and a diminution in the size of the blood-vessels, thus favouring, by diminishing the bulk of the hernia, its return into the abdomen. Cold may be said to be the most perfect and equal form of taxis that can be employed. It may be best applied in the way it is always used in this hospital, by pounding ice into pieces of moderate size, and tying them up loosely in a bladder, which is placed over the hernial tumor. It was used in the present case to endeavour to effect the return of the portion of omentum which remained in the sac after the return of the intestine.

I think it may be safely laid down as a rule that it is better not to administer any purgative medicines in cases of strangulated hernia, when it is one of first hernial descent, or a hernia previously reducible, their tendency being rather mischievous than beneficial, as they increase the vomiting, and add much to the patient's distress, and tend to make the hernia, if anything, more tense, and therefore less likely to be reduced. After a hernia has been replaced by operation, taxis, cold, or other means, do not be in a hurry with purgatives. It was formerly the practice to administer them in small doses soon after the intestine had been returned into the abdomen. Experience, however, has proved the fallacy of this course of treatment, and it is, and has been, for many years, the general practice of the surgeons of this hospital to wait patiently for four, five, or even six days, after operation, before any purgative medicine is exhibited, so as to allow the fold of intestine which had been strangulated to recover itself, and prevent its being disturbed by purgatives, which increase the peristaltic action of the intestines. Indeed, our general practice is to give opium immediately after the hernia has been reduced, for the purpose of relieving pain, and allaying any irritability of the stomach which may remain, and procuring rest for the patient. But if the bowels should not be moved on the fourth or fifth day, it is better to solicit the action of the intestines by an enema of soap or cas oil, rather than attempt to enforce it throu the administration of purgatives by t mouth; although, in the case detaile you, calomel and colocynth pills were gi to the patient without being followed any untoward circumstances.

UNIVERSITY COLLEGE.

The annual meeting was held on the inst. for the election of officers, &c. Geo Grote, Esq., presided.

The Secretary read the report, which adopted, and which contained the follo return of the number of students in the stitution in the year 1849-50, an amount of fees paid by them:—In faculty of medicine, 249; fees, £4263 the faculty of arts, 262; fees, £4019. junior scholars, 292; fees, £4170; number of students, 511; total amou fees, £12,457. 5s. The report also st that the entries for the current session to this period are—medical students, of whom 31 are new students; attend in hospital practice, 31; students of fac of arts, 180, exclusive of five schoolmaste the new students being 93. The numb entered at the corresponding period of session were, medicine, 263; new, hospital, 45; arts, 197; new, 93; amount of receipts for the year, £12, amount of ordinary expenses, £3 amount paid to professors and mas £8748. The difference between the in and expenditure is made up out of th terest received on the invested funds. report, in conclusion, referred to the dition of the finances, and stated th subject had been referred to a select mittee of the council to report upon.

Original Communications.

A CASE OF MENSTRUAL ULCER ON THE FACE.

BY
J. COOPER FORSTER, F.R.C.S., M.B., Lond.
Surgeon to the Surrey Dispensary, &c.

PERHAPS the singularity of the following case, as regards its duration and obstinacy to almost all remedial measures, may be sufficient apology for my troubling the readers of the MEDICAL GAZETTE with an isolated fact.

A young lady, aged 27, of healthy appearance, presented herself to my notice on the 3d of June, 1849; she was extremely anxious about a small sore which existed on the right cheek over the malar bone; it was ordinarily covered with a hard scab, and had a very disagreeable look; the parts around were somewhat redder than the other cheek, which was by no means deficient in colour; she frequently removed the scab, and then there appeared a small indolent circular ulcer, about the size of a sixpence, without any granulations, but some little bloody points, and covered with a thin glairy serum: the varieties of ointments, lotions, and the applications of nitrate of silver, which had been made use of, had been countless. She stated that the spot had been in existence, and about the same size, for eight years, having first commenced as a small boil, which broke, discharged, and then lapsed into its present state. During the menstrual period, at which time she suffers severely, labouring under a form of dysmenorrhœa, the cheek on that side becomes swollen, much redder than usual, and somewhat painful, but at other times she is free from pain; it itches frequently after she has taken a meal, and particularly after dinner; the only discharge proceeding from it is the thin watery serum which appears when the scab is removed.

During the whole time that she has been troubled with this spot, it has never been much better nor worse; and I may remark, that she has been under some one's care constantly,—sometimes the qualified practitioner, at other times the quack: indeed, from her account, she derived more benefit from the late celebrated Mrs. Gare's ointment than anything; yet it never became cured.

I first ordered her the Ung. Arsenici Iodid. so strongly recommended by Biett, and continued its application for three weeks, at the end of which time the sore had spread considerably, and become more swollen and red. I was, therefore, compelled to discontinue its use, and upon carefully reconsidering the history of the case, and remembering the host of local and constitutional means that had been employed, concluded that the only rational mode of treating it was thoroughly to destroy its surface by some powerful agent. I therefore freely dressed it with the strongest acetic acid, and there quickly formed a hard incrustation upon its surface, the surrounding parts becoming somewhat swollen. This was not touched for fourteen days, at the end of which time, upon removing the scab, the parts beneath appeared perfectly healed, and have continued so ever since, more than a year and a half, though occasionally, during the menstrual period, the scar, which is very slight, itches, and becomes somewhat swollen.

One can scarcely suspect that the remedies which had been ordered had been neglected, or that anything had been applied to keep up irritation, as we not unfrequently see in some unaccountable hysterical cases: the fact of the spot materially spoiling the patient's appearance seemed to contra-indicate such a conclusion. On the contrary, every view of the case tended to show its true menstruous character, and led to the treatment I adopted. Constitutional remedies of all descriptions, and tending to restore the uterine functions, had been fairly tried, but appeared of no avail; and I therefore felt convinced that the means employed should be of a local character, as I have usually found the menstrual ulcers on the legs are much more frequently cured by a well-regulated course of local than constitutional treatment. Taking, therefore, into consideration the multiplicity of local and constitutional remedies which had been used, I was somewhat struck with the very kindly manner in which it healed by the means adopted.

I have often found the strong acetic acid a very manageable and useful application wherever the superficial destruction of a surface is required: it also has a peculiar affinity for certain forms of morbid structure, particularly warts. In this case I used it, well knowing how admirably it forms a scab upon the surface of a sore, allowing the healing process to go on beneath. The application is not nearly so painful as would be imagined, seeing how greatly the practice of thus obtaining a healthy surface has fallen into disuse; and where these menstruous ulcers refuse to heal, or in cases where the usual local means, as pressure, cannot be applied, I would strongly urge its adoption, and know of no remedy more advantageous.

11, Wellington Street, London Bridge,
March 1851.

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

By James Bowen Thompson, A.B., M.D.,
Formerly Physician to the Royal General Dispensary, Aldersgate Street; late Chief Medical Officer to the British Hospital, Damascus, and Inspector of Health for the Turkish Government; One of the Hon. Secretaries of the "Epidemiological Society;" Fellow of the Medical Society of London.

[Continued from p. 370.]

No. III.

The duration of life is influenced by many circumstances; and that air, climate, soil, and water, exert a paramount control on vital statistics will not be doubted; so, in the ratio of their respective agencies on health in man and the lower animals, will they tend to affect the laws by which disease and epidemic visitations are governed. The various grades in society are next influenced by these circumstances. The advantages seem in favour of the large middle classes, amongst whom we would include the different professions; next in order, the nobility or aristocracy; and thirdly, the poorer classes,—some trades, as shoemakers and tailors, being more liable to disease than others; the diseases of the latter chiefly are phthisis, or chronic stomach and liver complaints, the latter frequently terminating in dropsical affections.

There appears a greater mortality amongst children between the ages of 3 and 5 in London, than in any other large city on the Continent; and the adults seem to reach a middle age proportionably in greater numbers in London than in Paris or other continental cities. There is likewise a greater mortality for the first year or two amongst persons coming up to London at an early age—that is, before adult life—than is observed, as far as any attention has been paid to the subject, in other cities. Probably the change in the persons' habits is comparatively greater in this respect in London than on the Continent. The great difference in the quality of the milk and the adulterated liquids, employed by adult citizens with impunity, produce a considerable change, and often in a very few weeks, on the visitor to our metropolis. Foreigners coming to this country generally remark the great prevalence of nervous and mental complaints in our public institutions, and are led to attribute it to our over-working the mental and physical powers; and there is no denying the fact that this is the case. But in addition to over-excitement, it is to be feared that the adulterations already noticed have something to do in the matter; for it is well known that the prevalence of nervous affections are more common amongst the classes that have recourse to stimulants than amongst the higher grades in society. The disregard of cleanliness and good air likewise tend, no doubt, to predispose to the increase of these affections in this class.

It is a very general impression that insanity and nervous diseases will increase in the ratio of the progress of civilization; and one is disposed to give some credit to this view of the question when it is obvious that similar affections are comparatively rare in the East and amongst uncivilized or half-civilized nations. The French attribute this in some measure to the aspiring characteristic of the English,—as they say no man appears content with his lot, and that John Bull is never happy without some grievance, and that vanity and ambition urge him on to aim at something beyond his reach; he fails in the attempt, and this proves his bane: he cannot sustain the disappointment—he gives way. The subsequent depression is followed by a train of symptoms, often ending in permanent disease, unless active means are employed to arrest the progress of the mischief; nothing is found so salutary as a change both of scene and climate.

It is remarkable how great an improvement takes place in a short time in a patient, where the derangement is only functional, from a change of climate. Some very interesting cases of this nature came under my own observation not many years ago: it occurred in commercial gentlemen and in a nobleman, who were sufferers from the failure in railway speculations; their spirits became so depressed as to excite the alarm of their friends and medical attendants, and nothing, I feel assured, would have rescued them from permanent disease, and probable premature death, but the immediate change, and to a tropical climate, traversing the continent of Europe by slow journeys previously. The autumn and winter in Egypt and Syria are peculiarly well adapted for this purpose; probably no place can afford greater advantages in this respect than Cairo. There are many other affections benefited by a sojourn in Egypt; such as cases of chronic affections of the mucous membrane of the stomach and trachea, and in cases of obstinate relaxations of the uvula, frequently met with in clergymen, and no doubt contracted from the disregard of ventilating their churches during week days. Fires are lighted on the Sundays; and in the afternoon and evening you may perceive the walls quite saturated with moisture, and a cold damp air all through the body of the church. How many valuable lives are thus endangered, if not sacrificed! I know two distinguished members of the Church invalided at this time from this damp; and they are quite conscious of having contracted the affection in this way. If we were to collect a table of actual data, upon which incipient colds, coughs, and catarrhs arose, how many may we not trace to this circumstance! and what diseases are thereby entailed!

It should also be borne in mind, that climate does not only benefit purely medical cases, but that its utility is very considerable also in surgical cases,—such as strictures of various parts: it exerts a great influence on the skin, and through the skin on the mucous and other membranes and tissues, and benefits certain states of the liver and kidneys. The comparative freedom of oriental natives from the latter diseases is very remarkable, when compared with Europeans resident for some years amongst them. And to what can this be attributed but to the simple habits of the former, compared with the free and luxurious mode of life adopted by Europeans. Strong wines, brandy, curried meats, &c. &c. tend no doubt to aggravate the diseases in Europeans, who are likewise very indiscreet and injudicious for the first few years after their arrival in a warm climate, and when the mischief is chiefly accomplished before their constitutions get acclimatized. How many young officers are sacrificed by this disregard of climate and diet on their first arrival in India, China, Africa, and Turkey in Asia; whereas, by being more careful in every respect, as avoiding undue exposure at mid-day, and not overfatiguing the body with the violent and dangerous field-sports in either of the countries named, and living more abstemiously than in Europe, they might most certainly avoid this, and save their own lives, and, indeed, live to as long a period as at home.

It appears indispensable to the European constitution, after some years' residence in a tropical climate, that it should be recruited, say every seven or ten years, by a return to the native country. This rule will, of course, vary, as the constitution of the party may be influenced by climate after the first five years' residence. Some military and civil officers of the East India Company's service remain in India during their whole term of service, varying from twenty-five to thirty-five and forty years, and enjoy good health; whereas others require a change to Europe, or the Cape, Egypt, or Syria, every five or seven or ten years: and such as require the latter change, and disregard it, invariably suffer, and many sacrifice their life in consequence. And from this neglect arises a rather strange fact—that on some of the tombstones in the cemeteries in the different presidencies may be witnessed the following epitaph:—"This is ——, who was going home next year." So that it has now become an object of importance, and quite necessary for the due regard of the performance of the duties of the respective departments, that no parties be permitted wilfully to disobey the necessity of a return to Europe when recommended by a medical board. A short sojourn in Europe, at the Cape, or in Egypt, or Syria, makes a decided improvement in the state of the parties' health; and they can often return and resume their duties as early as the second, and generally before the end of the third year, and suffer little or no inconvenience from their previous delicacies from climate for some few years more after their return,—in many instances none at all; and that one visit is quite sufficient for them during the whole of their term of servitude. In the more delicate constitutions a *second*, and, in some *few* instances, a *third* visit, to one of the above-named places is necessary. Much benefit is often derived by patients of a scrofulous diathesis by a residence in a tropical climate; and old venereal taints in the constitution are more readily got rid of after a residence in a warm climate than in our cold northern hemisphere. The latter class of diseases, if contracted after arriving in the country, are more easily combated, and less difficult to remove, than similar affections in Europe. The influence of climate, and the more frequent regard to ablution, and the employment of the bath, tend in no small degree to facilitate the treatment in these cases. The employment of mercurials is more successful, and less frequently attended with any inconvenience to the patients at the time of administration, or at any subsequent period. The amount of mercury, in a given time, acts with more certainty, and the medical man can better calculate on its results. The doses must be adapted with some care to an Indian constitution after his return to Europe; while in India, you will often find the same patient take a dose with impunity, and not much effect produced, which may occasion some considerable irritation, and even salivation at home. This is often the case in females of Indian origin after their return to this country. I knew one lady that could take from ten to fifteen grains of calomel with impunity in India; whereas five and seven grains in England acted as a purgative, and ten grains would salivate. It can only be accounted for by climate; and no doubt the disregard of the ablutions and baths so frequent, and agreeable, and indispensable, in India, has much to do in the great difference here noticed. The change from India to Europe, or *vice versâ*, exerts a great influence on the constitution: and much care and precaution should always be observed under these circum stances. The diet and clothing shou be duly borne in mind. The season the year, too, at which the change made is one well deserving the seri attention of the physician. Leavin Europe for a tropical country shou always be at such a time, that on your arrival you have most of that seas assimilating to our own before you; by this means you get a few months moderate and agreeable weather befor you are exposed to an extreme clima from that which you have left, and which you have been accustomed.

In returning to Europe, likewise, will be desirable—indeed, in all pr bility, most requisite—to be careful this respect, especially after a long dence in the tropics. To return in early summer, probably the end of M would be the best time: thus you the severe easterly winds that prev late as April in some seasons. T turn before this, or at the approa winter, is often fatal to delicate In constitutions; not only such as ar Indian origin, but such as are be so very nearly from a long resid The prejudice to India is grad disappearing amongst Europeans the diseases of India are now better derstood, and the mode of living in accordance with common sens reason. The abuse of blood-le too, in disease, is rectified; for this frequently carried to an undue ex general blood-letting is not so practised now as it was some tw years ago,—diseases are as efficac combated and controlled by loca pletion and therapeutic agents dians, and Orientals generally. bear extensive depletion well. though you may give a more diate check to the disease, you ar to render tedious the convalesc your patient. In soldiers of diss habits, the more frequently you the lancet employed, and carried extent, the more surely may you late upon witnessing *delirium tre* Men may often appear on parade morning, and in an hour afterwards you see some of them carried off the ground, who have dropped down in a fit of delirium tremens. This was often noticed on the parade-grounds in Sydney, in New South Wales, and these men were persons, generally, who had been repeatedly bled on former occasions.

The climate of New South Wales is much less oppressive at the hottest season than that of Bombay or Calcutta—probably it approaches more the climate of Madras than any other; and it is well deserving of the attention of Government to bear in mind the importance of sending troops intended for India for a few years to do duty in our colonies: it would have a salutary influence on the troops generally, and better prepare them for an Indian climate or an Indian campaign. The duration of life in our colonies is decidedly carried to a greater extent amongst all grades than in any of our Indian possessions.

The climate is more congenial to our European constitutions, and we are not exposed to the same solar influence; the mode of life is more conducive to health, and the habits of the colonists are more in accordance with local and rational living, than in India in former times. There has been a great change for the better in this respect within the last fifteen years in all our Presidencies, and the young officers, civil and military, are a more serious and sober-minded class.

It may be worthy of notice here, that certain diseases, peculiar to females, are more manageable in our colonies and in India than in Europe. Menstruation appearing at an earlier period, no doubt has much to do in this; and abortions and difficult parturitions are less frequent than in Europe.

There are probably fewer diseases met with in females,—that is, comparatively, and relatively as regards age, single or married, and proportionably with the ratio of population, as to given numbers.

The diseases called malignant, too, are not so frequently met with; and here again, early menstruation and early marriages must no doubt be credited for their salutary agency in this exemption; the cases of parturition are more favourable, and there is less necessity for our interference, unless in very sickly and feeble constitutions, where occasional manual aid may be necessary, but very rarely is instrumental aid called for; the after stages of this interesting period of female life are less troublesome, and lactation is less frequently attended to by Indian or colonial mothers than in Europe. In India especially few ladies nurse their own children, though, when delicacy of constitution did not forbid it, it might be more frequent, and with more benefit to parent and child, be attended to and regarded; but Indian females are good nurses, and form most faithful and attached attendants, and so far resemble the Nubian and Abyssinian slaves in the harems of Turkish families.

I will speak more on the latter class in my reports from Turkey. In a tropical climate one is in some expectation of finding the disease of insanity in man, and of hydrophobia in the lower animals, and we are rather surprised after a long residence that both are comparatively rare—indeed very seldom seen. Canine madness one would mostly anticipate, seeing the manner in which these poor animals are treated—seldom owned by any one—beaten and irritated by all—and living in such a state of want and hunger as often to be obliged to feed on each other, and even on dead cats: still, hydrophobia is scarcely known. It is difficult to attribute this comparative freedom from this dreadful affection in man or the lower animals to any other source than that of climate, though at first sight one is led to suppose there would be all the fertile germs of the development of the disease: the native mode of treatment will be discussed at another time, when speaking of the progress of medicine and surgery in the East. The operations performed in a warm climate are at certain seasons more successful than at others, so much so as, that men long resident in the East would not perform a very minor operation even under certain conditions of the seasons, or during the prevalence of certain winds: any operations performed on these occasions generally disappointed the operator, and required more time in a curative process.

But generally speaking operations are more successful than in this country—and under even less favourable circumstances: that is, you can calculate to a greater certainty, upon the result in a given number of cases, than you can in our hospitals in Europe; the diseases of the bladder are less frequent, and calculi are not often found, and rarely an operation is required in such cases. I do not think amongst Indian subjects the disease is at all prevalent; though they often suffer from kindred affections, but less obstinate in their cure than with us in Europe.

There are few diseases that are not influenced by climate, and none more so, probably, than those simulating forms of epilepsy. When this arises from functional derangement, as is very frequently the case in early life, you find a change from Europe to a tropical climate most conducive to its removal, and after it has resisted every ordinary means had recourse to, without producing any amelioration in its frequency or duration. I witnessed the most happy results in two cases of this kind, one in a young and zealous clergyman, and the other in a young officer of the Guards, who had to retire from the service on account of the frequency of the fits, and the danger to his life, as they came on suddenly while on parade on horseback. Climate has done much for the latter case; but there is not yet sufficient time for its complete success; but the difference in the returns, of the frequency and duration, of the fits is considerable. In the clergyman's case another winter or autumn in a warm climate will, I think, complete a permanent cure.

I should mention that these patients were taking taraxacum and alteratives at the same time, and not much change made in their diet: malt liquor is allowed still in preference to wines. I should remark that epilepsy is comparatively a rare disease in a warm climate, which leads me to infer that it is much less dependent on *organic* lesion than we are apt to imagine. I think the presence of worms often creates so much constitutional disturbance, and especially in females, or weakly young men, as to give rise to affections analogous, if not the same as those ordinarily known and called by the name of epilepsy or epileptic. The number of idiots is comparatively few in tropical countries; and the few instances met with may be generally found amongst those sects that permit *intermarriages*: the term "breeding in-and-in" is understood amongst them; and, where it is practised for a succession of generations, the mischief is quite apparent. Among Jews and Druses it is proverbial for entailing many diseases hereditary in the ancestors—such as leprosy, psoriasis, plica polonica, scrofula, &c. &c. These will be respectively noticed in my reports.

The prevailing diseases met with in Turkey in Asia are ophthalmia of various forms, intermittent and remittent, and rheumatic fevers; continued or typhus, not very common; diarrhœa and dysentery, tubercular complaints, and consumption, rare; stomach complaints general, from inattention to diet. hepatic diseases rare, worms in adults and children; skin diseases, from neglect and disregard of cleanliness and the bath, common; cholera; leprosy amongst the Jews, Christians, and Mohammedan sects. The Jews of Damascus are exempt from this disease, accounted for by a tradition amongst them. The present Christian asylum for the lepers is said to be the house occupied by Naaman the leper, close to the street called Straight, where the house of Ananias stood, just by the gate from which St. Paul fled and made his escape, being lowered down in a basket, while Aretas, the Governor sought for him.

The operations on the eye in Turkey, as in India, are comparatively successful, owing in some measure to the fact that, when an operation is permitted, you can have recourse to it at an early period, and have not to wait until the eleventh hour, as is often the case in Europe, and which is no doubt our reason why our operations, in England especially, are less successful than on the Continent, where, at the public institutions, and in private practice, recourse is had to important operations at an earlier period, and when there is a far fairer prospect of success, both to the patient and the credit of the operator. Still I believe, notwithstanding all these disadvantages, the amount of success, generally speaking, is greater in this country than abroad, and the after-treatment is more successful invariably.

[To be continued.]

AN ESSAY ON

UNHEALTHY INFLAMMATIONS.

THE ALLIANCES OF ERYSIPELAS.

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[Continued from p. 145.]

Erysipelas of the Mucous Membranes—Scarcely recognized by the Moderns, at least by the great body of the Profession. Was known to the Ancients. Erysipelas of Conjunctiva—Of the Throat and Wind-pipe—Hippocrates—Aretæus—Cælius Aurelianus—Unconsciously described by Drs. Baillie and J. R. Farre. Dr. Stevenson's (of Arbroath), Cases of Erysipelatous Sore Throat. Drs. J. A. Wilson, C. J. B. Williams, Stewart, Gregory, and Mr. Cæsar Hawkins' Illustrations of Erysipelas of Air Passages —Mr. Travers, his Graphic Portrait of the same, &c.

In May 1849, an interesting paper under the title "The Alliances of Erysipelas," was read by Dr. Gull at a meeting of the South London Medical Society, which opened with the following observation:—"In the year 1847, during the winter, my attention was first drawn to the complication of erysipelas with inflammation of the fauces[*]." In the paper alluded to, Dr. Gull confines himself to the single alliance here recited, if I except a passing allusion to the complication of erysipelas with puerperal peritonitis.

This interesting, important, and highly practical consideration, has experienced little attention at the hands of modern writers on medicine. In systematic works, it finds no place at all commensurate with its pretensions:—in some, is unnoticed altogether; in others, it is disposed of as a matter rather of curiosity than of practical importance; whilst, to the great body of the profession in general, and especially to those members of it who either have no time or no inclination to read, and who plume themselves upon being "practical men," the analogy, if not the identity, of many internal inflammations with erysipelas would appear to be altogether unknown.

The matter was widely different with the ancient Greek and Arabian writers; for, we find them taking quite another view of the importance of erysipelas in its relation to the organs within the body, and associating that disease with several of the inflammatory conditions to which they were exposed. It cannot be denied, however, that they carried their views a great deal too far; while their descriptions are often so indefinite and vague as to leave us altogether in uncertainty as to the sort of disorders which they intended to define. Thus, whilst Hippocrates describes "Erysipelas of the Brain;" and others, among the Greek and Arabian writers, speak of "Fevers with an Erysipelatous affection about the Viscera,[*]" the delirium and coma supervening in the course of erysipelas of the face or head, could no more be shown, in the days of Hippocrates, to be dependent on a translation of that disease to the organs within, than it can in our own time; and, in relation to the latter affections, the writers in question have left us in the dark as to the nature of the febrile disorders which they denominated "Erysipelatous Fevers."

Adopting myself the *in medio* under these discordant views of the nature and extent of its alliances, I venture to suggest, for future reflection, that although these were exaggerated by our forefathers, they have been regarded with far too little attention by ourselves; whilst their number has been restricted within unreasonably narrow limits.

Conjunctivitis.—During the prevalence of certain conditions of the atmosphere and of temperature, it is not unusual to meet with this disease so suddenly setting up, and so general in its attack, as almost to warrant the application of the term epidemic to its invasion. It will be thought, perhaps, a fair objection to the assumption of its dependence upon a poison in the air at such times, that the disease may be explained upon simpler grounds—to wit, upon the irritating qualities of certain winds—as, for example, when they blow from an east and north-east quarter. But, I am alluding now to a different condition of the atmosphere, and to one which prevails more particularly in summer than in other seasons of the year. It is more immediately amongst the poor and ill fed, residing in confined situations,—in narrow lanes and crowded courts,—than with their wealthier and more gifted superiors, that I have at present to do. The sons and daughters of indigence and misfortune afford the commonest illustration of its attacks—and with them I have seen it so universal at times, in a particular locality, that its dependence upon a poison pervading the atmosphere of such, has been strongly forced upon me. It has appeared to me, at the same time, to be highly contagious, spreading rapidly through the entire inmates of a family, and manifesting itself in different houses of the same court or alley. At the moment I am writing these remarks*, I have a family thus circumstanced on my hands—*i. e.* a family consisting of many members, struggling hard for subsistence, and living in a locality here†, well known under the uneuphonious title of "Barrack Court." The narrow area of this court is almost always choked up with the exhalations of the wash-tub, while the various impurities from the hovels within meander along the gutter in the centre of the same, emitting their fragrance to a distance around, and, together, affording the happiest elements for the action of the only other agent necessary to manufacture a poison,—a temperature of 85°. That this poisoned state of atmosphere and the local disorder in the conjunctiva bear to each other the direct relationship of cause and effect, I am as persuaded of as of my own existence; but, how far the diseased condition of that membrane may be assumed to be identical with erysipelas is a question, I admit, not so easily to be settled, and admitting, in consequence, of a good deal of latitude of opinion.

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[*] Vide Medical Gazette for 8th June, 1849.

[*] Vide Paulus Ægineta.

That there is nothing unreasonable in referring the local disease of the conjunctiva to a toxic origin, must be conceded, I think, by every practitioner who admits the connection of the "Egyptian Ophthalmia"—or, of purulent opthalmia in general—with a morbid poison; and, I can hardly understand the sort of proof which is still demanded for the settlement of this question, after the body of evidence we already possess, and, in particular, that adduced by Sir Patrick Macgregor, in its support.

The cases I am alluding to improve rapidly under attention to the general health. Fomentation* is the only local treatment I consider necessary to employ: quinine and porter, with a nourishing diet, will do the rest. Depletion, in every form, is mischievous, and, of course, contraindicated by the origin of the disease. A specific for the disorder would be found in the translation of the subjects of it to a distant and purer locality.

Cynanche.—Using this term, in the present place, generically, to represent inflammation of the posterior fauces, and of the different passages diverging from them, I shall condense what I have to say upon the several regions of the fauces and throat under this common title.

Hippocrates, six hundred years before the Christian era, had noticed the connection between erysipelas and sore throat; for, he tells us, in his third book of the "Epidemics," that he had seen a malignant and fatal epidemic erysipelas—many of the cases being marked by sore throat,—"Πολλοι φάρυγγας ἐπόνησαν." The original words themselves of our great master, in a matter so exceedingly interesting to the modern practitioner as this, can scarcely fail to be acceptable. "Πρωῒ δὲ τοῦ ἦρος ἅμα τοῖσι γενομένοισι ψύχεσιν ἐρυσιπέλατα πολλὰ, τοῖσι καὶ μετὰ προφάσιος, τοῖσι δ' οὔ, κακοήθεα πολλοὺς ἔκτειναν. πολλοί φάρυγγας ἀπόνησαν. φωναὶ κακούμεναι, καῦσοι φρενιτικοί, στόματα ἀφθώδεα."†

This passage, I think, will be allowed to be very conclusive as to Hippocrates' recognition of the particular alliance under our notice. The next case which I shall subjoin is described as one of quinsy; but being associated with a "reddish and hard swelling on both sides of the neck and throat," its connection with erysipelas might, with much justice, perhaps, be assumed.

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* July 1850.

† Woolwich.

* I avail myself of the present occasion to record the high opinion I entertain of the merits of hot water in the treatment of disease. It is one of our most important and steady allies as a local application;—as a gargle, in most affections of the throat, it stands alone—or, to borrow a solecism (I think) from Milton, "it stands before the first." Indeed, had my revered friend, Sangrado, only stuck to the hot water alone, and left the bleeding to others, there can be no doubt he would have been the greatest physician that ever lived!

* Gottlob Kühn's edition, Lipsiæ, lib. iii. sectio tert. vol. iii. p. 482.

"*Κυναγχικὴ ἡ παρά τά 'Αριστίωνος, ἣ πρῶτον ἀπό γλώσσης ἤρξατο. ἀσαφὴς ἡ φωνὴ, γλῶσσα ἐρυθρή. ἐπεξηράνθη, τῆ πρώτη φρικώδης ἐπεθερμάνθη. γ ριγος, πυρετὸς ὀξὺς, οἴδημα ὑπέρυθον σκληρόν. τραχῆλον κάι ἐπί στῆθος ἐξ αμφοτερων, ἄκρεα ψυχρὰ, πελιδνά, πνεῦμα μετέωρον, ποτὸν διά ρινῶν ἐχεῖτο. καταπίνειν οὐκ ηδύνατο, τά διαχωρήματα καὶ οὖρα ἐπέστη. δ πάντα παρωξύνθη. ε ἀπέθανε κυναγχικη.*"*

In the "Coacæ Prænotiones"† we meet with the remark, that the fauces becoming diseased in fever—"*ἐν πυρετῷ*"—where the general symptoms are severe, the patient's life is in danger. It would be interesting were we able to picture to ourselves the precise form of disease which Hippocrates had in his mind's eye at the time he wrote this passage. Was it erysipelas, or scarlatina,—a malignant form of typhus, or what? That it was, however, the first of these I think not improbable, from the fact that in another passage in the Coacæ Prænotiones, Hippocrates observes, that red swellings arising about the ear in the course of fevers are erysipelatous in nature.

Galen makes no direct mention of erysipelas of the fauces or windpipe, although he frequently alludes to an erysipelas of the lungs.

Aretæus, in his chapter Περὶ Συνάγχης, appears to me to have been unconsciously describing an erysipelatous affection of the posterior fauces and air-passages, when he particularizes the tonsils, the epiglottis, the fauces, the velum and upper part of the windpipe (*ἄκρης ἀρτηρίης*), as the occasional seat of the inflammation; and, when he adds,—"and if the inflammation should spread further, the tongue and interior of the cheeks become affected." But the allusion is still broader, and less mistakeable, a little further on in the chapter:—"*ἐνίοισι δὲ ἐς πνεύμονα ἡ ξύνδοσις ρηϊδίως. οἱ δὲ μεταστᾶσι θνήσκουσι. πυρετοὶ νωθροὶ, μαλακοὶ, οὐδέν ὠφελέοντες, ἐι δὲ τῷ ἐς ἀγαθὸν τρέποιτο, ἀποστάσιες γίγνονται ἔνθα καὶ ἔνθα παρ' οὖς, ἔξω ἡ ἔνδον, ἐς τά παρίσθμια. κἤν μὲν ξὺν νάρκῃ. μὴ κάρτα βραδεώς, περιγίγνονται μὲν, ξὺν πόνῳ δέ καὶ κινδύνῳ.*"‡

Cælius Aurelianus touches upon the connection of erysipelas on the exterior of the neck—"circum colla"—with affections of the mucous membrane within. In his second chapter on "Synanche," under the head of "Quæ consequantur Synanchios," he observes,—"Si, circum colla se ignis sacer infuderit, sive in pectore apparuerit, et fuerit perseverans, frequentissimè bonum portendit. Siquidem ascensus tumoris ex alto ad superficiem venire videatur. At si, sine ullâ ratione adjutorii cujusquam medicinalis beneficii, repentè non apparet, salutem negabit: descensus enim a superficie corporis ad altiora monstratur," &c.*; the close of the passage alluding, unmistakeably, to the extension of the disease from the surface to the parts in the neighbourhood within. I have already stated, in the course of this essay, what the classical reader will not require to be told, that the ***ignis sacer*** of the ancients was believed to have been nothing more than erysipelas.

The few passing allusions which I have thus made to the most ancient writers on medicine, as well as to the most famous, are sufficient to prove that this most important connection—viz. between erysipelas and an affection of the fauces and air passages—had not escaped the observation of those singularly observant men; while an accomplished physician of our own time informs us, that—"In the year 1847, during the winter," his "attention was first drawn to" the "complication," &c. "It was Radcliffe's boast that he did not prepare himself for the practice of the art of healing by what he considered an useless application to the rubbish of antiquity contained in musty volumes, but, by a careful examination of the most valuable treatises that made their appearance in his own times."† I think I have offered a striking commentary upon the injustice of Radcliffe's contracted opinion of the ancients, and could earnestly wish that the modern Radcliffes of my own standing in the profession were less of the same way of thinking with their eccentric predecessor.

In the year 1809 Dr. Baillie published an account of "three cases of inflammation of the inner membrane of the larynx and trachea terminating quickly in death," of the erysipelatous character of which I entertain not a doubt. I have perused this brief narrative with uncommon interest, because, while it lets slip no sort of allusion to their real nature, it breathes, throughout, a confirmation of the views which I entertain of the specific pathology of that form of cynanche originating in a poisonous state of the atmosphere. I regret that my limits compel me to notice these cases very briefly.

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* Ibid. lib. iii. sectio secund., p. 476-7.

† Ibid., vol. i., p. 276. The passage begins—"φάρυγξ ἑλκουμένη ἐν πυρετῷ," &c.

‡ "Opera Omnia," ed. Kühn's, p. 13.

* De Morbis Acutis et Chronicis, lib. iii., cap. ii. p. 183. Amstelcedami.

† The Lives of Illustrious English Physicians.

"Very few cases," says Dr. Baillie, "have occurred of an inflammation in the inner membrane of the larynx and the trachea so violent as to destroy life in a very few days. I have only met with two such cases after practising medicine more than twenty years; and this disease has not been met with at all by many physicians of much longer experience."

The first case occurred in the person of a revered medical friend of the writer, æt. sixty, who "for many years had been subject to attacks of quinsey, which had readily yielded to general bleeding, purging, and abstinence." I beg the reader will particularly notice this.

On the present occasion "his skin was hot, and his pulse frequent, but not hard. He had been bled copiously by his own desire, and the blood was very buffy." "During the night the symptoms became more violent, and a considerable number of leeches were, very early in the morning, applied to his throat." This line of treatment had the effect of blanching his countenance, of depressing his pulse very much, and of almost annihilating his voice: but the local disease underwent no improvement; and, on the evening of the same day, he expired.

The second case also occurred in the instance of a medical friend, 59 years of age. The symptoms commenced with uneasiness about the larynx, unaccompanied with constitutional disturbance; but "the patient was a good deal anxious about himself." Seven or eight leeches were forthwith applied to his throat. The next morning "he was somewhat worse:" more leeches were applied to his throat, twelve ounces of blood were extracted from the arm, and a blister was addressed to the part. "During the day he was bled, at his own desire, three times, so as to lose altogether between thirty and forty ounces of blood. I called on him between ten and eleven in the evening, and he was then considerably worse." Some benefit was then obtained by opium, but this passed away, and the case terminated fatally on the fourth day.

The third case was not seen by Dr. Baillie himself; "but the disease," he tells us, "seems to have been precisely of the same kind with that described in the former cases." The subject of it was 42 years of age, and had been subject to attacks of quinsey. When first seen by his attendant, "his pulse was small and frequent, but not hard; his countenance pale and bad, and his breathing difficult and spasmodic." In this case, blood was taken twice from the arm largely; more was taken by leeches from the part, and the patient was actively blistered besides. "But," observes Dr. Baillie, "from none of these remedies did he receive any benefit." Like the preceding case, he died on the fourth day from the commencement of the attack !*

So much for the cases themselves; and now for Dr. Baillie's commentary upon them.

"These cases," says he, "naturally suggest the following remarks:—Each of the individuals had been more or less subject to inflammation of the throat; and, therefore, that part, together with the parts in the neighbourhood, may be supposed in them more liable to disease than in most other persons. As these three cases occurred in one season, and near each other, it is probable that the state of the atmosphere was of a peculiar kind, so as more readily to excite inflammation of the inner membrane of the larynx and the trachea than in an ordinary season. This opinion is, in some measure, confirmed by slighter inflammations of the inner membrane of the wind-pipe having been more common than usual during the same season."†

After remarking that, "as there was an intercourse between the individuals, it may very naturally be a question how far the disease was infectious;" and that though bearing a strong resemblance to croup it was nevertheless a different disorder, as instanced by the absence of the usual "ringing sound of the voice" in that disease, but particularly in that

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* The subjects of the two fatal cases here recorded were Sir David Pitcairn and Sir John Macnamara Hayes.

† Transactions of a Society for promoting Medical and Chirurgical Knowledge, vol. iii.

"no layer of coagulable lymph was formed upon the surface of the inner membrane of the larynx and trachea," Dr. Baillie concludes his account with the following observation:—

"The most important consideration, however, is—How is this disease to be treated? It appears evidently, from the cases which have been related, that both general and topical bleeding, when employed early and strenuously, was of no real use; nor was any benefit derived from blisters or purgatives, expectorating and cooling medicines."

In the two first cases here recorded, the autopsy disclosed an inflamed and thickened state of the mucous and submucous tissues of the larynx, and the same conditions, though in a minor degree, of those structures within the trachea. The posterior fauces and the back of the tongue partook of the like appearances; and the epiglottis was remarkably implicated by the diseased action, so much so as to have been found standing up erect, and thereby, to a remarkable extent, exposing the larynx, during life, to noxious agencies from without.

The third case was not examined after death.

The preceding cases, recorded by Dr. Baillie, having "occurred in one season, and near each other;" and when, from these circumstances, "it is probable that the state of the atmosphere was of a peculiar kind;" and further, the symptoms, in each instance, having been wholly uninfluenced for good by depletory treatment, if not aggravated thereby, it is difficult to resist the inference, that, if not actually examples of erysipelas of the air-passages, they were erysipelatoid in their nature.

In the year 1812, Dr. J. R. Farre read, before the Medico-Chirurgical Society, an account of two cases of cynanche laryngea, which were published in the volume of the Society's Transactions for the same year. In both cases depletion was largely employed, generally and locally, accompanied by the ordinary adjuvants which are wont to accompany it. But "the disease," in the words of the narrator, "never paused," and the subjects were both lost. There was, however, this distinction between the pathology of the two cases, as disclosed at the post-mortem examination:—While the morbid appearances in both resembled very closely those in Dr. Baillie's examples of the disease, "no coagulable lymph had been effused on any portion" of the larynx or trachea,—"and even its mucus was not changed" in one; but, in the other, "the pharynx was covered with coagulable lymph about the epiglottis." Indeed, the disease, in this latter instance, would rather appear to have involved the posterior passage primarily and essentially, and to have spared the larynx, "the mucous membrane of which was pale."* Death, in this case, ensued from closure of the glottis by the effusion of coagulable lymph.

In an appendix to the paper from which I have just quoted, Dr. Farre has added some instructive general remarks, as well upon the treatment suitable to this formidable disease, as upon what was at that time known of its pathology. In relation to the former, I shall subjoin a few words from what he has left behind him thereon:—

"In comparing the morbid appearances with the symptoms of cynanche laryngea, it is not difficult to determine that the inflammation, from its limited seat,—from its not exceeding the bounds of the adhesive stage,—and from the symptomatic fever,—requires the use of the lancet. I may be here allowed to give you an unbiassed opinion; for, in neither of the cases which I have described, did I order general bleeding: the first, as I have already stated, was not attended by myself; the second was not in a state to admit of this remedy when I was consulted. Both were bled, it is true, but it was done in the very advanced stage of the disease. When the function of respiration can scarcely be carried on, the body will not bear large bleeding; but, although in the ultimate stage the vital powers are greatly depressed by the copious abstraction of blood, yet, on the accession of inflammation, this remedy seems to be less a matter of choice than of necessity." Then, alluding to the two first cases described by Dr. Baillie, he adds—"In both these cases it must be manifest to every one who reads the history of them, that the patients died not from exhaustion, but from strangulation." "By those who will take the pains to consider inflammation as a process, it will be understood that it may be checked, but cannot be suddenly extinguished, by the most active means; time must be allowed for the process to decline, even after the fairest efforts have been made to arrest its progress. Unhappily, this necessary time can rarely be obtained in this disease, in which the activity of the inflammation is expended on a small but most vital seat; for, the glottis once narrowed, may be closed by the local action, even after the general powers are prostrate."[*]

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* Medico-Chirurgical Transactions, vol iii., p. 86, et seq.

I am disposed to regard the first of Dr. Farre's cases as one of well-marked erysipelas of the posterior fauces and larynx, although its preceding history is deficient in all that relates to the existence or not of any peculiar condition of the atmosphere which the patient had been breathing antecedent to the attack, as well as to the general hygienic circumstances in which he had been placed. "The large and œdematous uvula" during life, and the same state of the mucous membrane investing the epiglottis, rima glottidis, and the posterior part of the larynx, after death, together with the rapid march of the symptoms, and the failure of large depletion and antimony in controlling the disease, are circumstances strongly pointing to such solution of its nature.

There may be more room for uncertainty as to the precise character of Dr. Farre's second case.

In the year 1826, Dr. Stevenson, of Arbroath, communicated to the profession in this country the particulars of a series of cases illustrating the connection of erysipelas with a severe affection of the throat. The cases in question occurred so frequently in persons who had been in contact with erysipelatous patients, that Dr. Stevenson could not doubt their identity; and he came in consequence to the conclusion, that the disease was in reality nothing more nor less than erysipelas of the fauces, evincing a disposition, like erysipelas in general, to extend itself in different directions to the adjacent parts. Dr. Stevenson informs us that he treated these cases on a "very vigorous plan of depletion," as well as the parent disease in which they took their rise; and that the subjects of all of them recovered. I have perused Dr. Stevenson's paper with some attention, and cannot doubt the intrinsically erysipelatous nature of the sore-throat which he had to deal with; yet, its apparent subservience, in his hands, to an antiphlogistic line of treatment offers a striking exception to what our best writers have seen and said upon that score. I shall not, I hope, be thought uncharitable in suggesting that, after his "very vigorous plan of depletion," Dr. Stevenson's cases were rather instances in which the patients were not killed than in which they were cured!

In a subsequent discussion upon Dr. Stevenson's paper, Drs. Abercrombie and Day, and Mr. Bryce, informed the society before which it was originally read, that they had met with cases in which a direct extension of inflammation had manifested itself from the fauces to the external skin by the anterior nares and lachrymal passages.

In February (27th) 1844, a most instructive discussion took place at the Medico-Chirurgical Society upon a paper, by Dr. J. A. Wilson, of St. George's Hospital, entitled "An Account of certain Acute Diseases in the Throat and Larynx, one of which was Cured by Tracheotomy." It appears that an inquiry into the precise nature and pathology of these cases was an object with Dr. Wilson subordinate altogether to the question of the adaptation of tracheotomy to this class of diseases in general: but the subsequent discussion arising out of the paper elicited some incidental observations from the assembly at large which are peculiarly valuable for my present purpose. At the outset of his communication, Dr. Wilson records a fatal case of cynanche, which, I think, could have been no other than erysipelas of the parts affected; for, he tells us, "the disease supervened on erysipelas of the chin, which succeeded an operation for the removal of some small warty tumors on the lower lip."

At the close of his account of the first[*] case in which tracheotomy had been employed with success, Dr. Wilson adds this remarkable statement:—"Nothing is more worthy of observation in this case than the immediate suspension of all diseased action in the throat and larynx consequent on the admission of air into the trachea. The strain having been removed from the inflamed structures, they soon recovered their healthy faculty of nutrition to the system at large." In this circumstance we have strong grounds, I think, for suspecting the erysipelatous nature of the morbid action with which Dr. Wilson had to deal, it being foreign to the nature of common or healthy inflammation to loosen its hold thus instantaneously, as it were; whilst it is the very essence of erythema, or simple erysipelas, to do so.

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[*] Ibid. p. 326, et seq.

[*] It is worthy of observation in this place, that blood had been somewhat largely taken from this patient; but that the disease galloped towards a fatal issue despite this and calomelisation, and was only brought under by the operation of opening the windpipe.

It would not appear that Dr. Wilson had suspected the erysipelatous nature of the cases which, in this interesting "Account," he was laying before the Society; but, from a perusal of the minutes of the discussion which ensued upon it, it is evident that the throat affection was associated, in the minds of some of the Fellows who were present, with that disease. Mr. Cæsar Hawkins, speaking of the varied nature of the acute disorders occurring in this region, observed—"In some of these cases death would ensue whatever steps were taken, and whether the operation were performed or not; and these were those instances in which the inflammation, from the first, was of a low character, and there was an effusion of lymph, serum, and unhealthy pus, in the cellular tissue, extending, in some instances, right down to the mediastinum. Instances of this kind he had seen. Where the inflammation was more healthy, and the effusion of lymph circumscribed, then the operation would be likely to be successful." But Dr. C. J. B. Williams comes more directly to the point. This physician, "during the last twelve months, had seen several cases of erysipelatous laryngitis, in two of which the operation of tracheotomy was unsuccessfully performed. The cases had occurred in University College Hospital, at the time erysipelas was prevalent in other wards. Most of the cases recovered, but four or five were fatal, and of these were the two operated upon." "In answer to a question, Dr. Williams stated that, in the cases he had related, the erysipelatous inflammation of the larynx was the primary affection; that the disease had not spread from other parts. Erysipelas existed at the time in the hospital. The treatment employed had been the same in the successful and unsuccessful cases, and consisted of leeching to the larynx, the employment of tartar emetic and mercury, and other antiphlogistic treatment. In good constitutions, this treatment was successful: where the constitution was bad the patients succumbed, from the weakness or obstruction, or both combined."

The evidence of the next speaker is very interesting, and, I think, conclusive as to the existence of such a disease as erysipelas of these all-important regions. "Dr. Stewart had had some experience of the disease under consideration, and of its treatment by operation, in consequence of having seen thirty cases of the affection in the Glasgow Fever Hospital; the disease having been epidemic in that institution in 1838. He called it *epidemic*, from the fact of its having been a very unusual disease both previously and since, and the thirty cases he had spoken of having all occurred in the space of three or four months. In the first cases that occurred, the usual and ordinary mode of treatment, such as leeches, tartar emetic, and other antiphlogistic means, were resorted to. In consequence, however, of the cases having supervened on typhus, the depletory measures could not be carried to a sufficient extent; and the disease ran its course so rapidly, that time was scarcely given for remedies to take effect. The first cases treated in this manner all proved fatal." "So fatal was the disease, that, out of thirty affected persons, only twelve got well, the disease running its course in periods varying from a quarter of an hour to four or five hours, or, what was more common, terminating from twenty-four to thirty-six hours after the first attack. He related the case of a student, who, having entered to the practice of the hospital, suffered from a mild attack of typhus, and was seized with the prevalent epidemic of laryngitis, and died, some little delay having taken place with respect to the performance of the operation."

Now, observe what immediately follows upon Dr. Stewart resuming his seat.

"'Dr. Gregory did not agree with the last speaker, that the disease could be considered properly under the light of an epidemic; he had seen a good deal of the complaint, and had never considered it to be an epidemic. On the contrary, it had invariably owed its prevalence to a foul state of the air in the wards, and spread from the same causes as erysipelas and hospital gangrene, and, like them, become contagious under such circumstances.'"

"'Dr. Stewart, in allusion to the remarks of Dr. Gregory, observed that he had used the term "Epidemic" in reference to the cases he had related, from the short period of time during which the disease prevailed, the number affected, its sudden cessation, and from the fact of its having occasionally occurred before sporadically, but never more than to the extent of two or three cases a year. Looking to these facts, and to that of the hospital having on other occasions been as crowded, he thought the disease in question might be fairly considered to have been epidemic. All the cases, with the exception of one, occurred in patients already in the hospital with fever.'"*

It is foreign to my present purpose to enter into the merits of that part of Dr. Wilson's paper which was devoted to the consideration of opening the windpipe in these diseases; a question in itself, however, of such momentous import to us all as practitioners, that too much praise cannot be awarded Dr. Wilson for pressing it on this occasion upon our attention.

In his Chapter on Erysipelas, already so largely laid under contribution, Mr. Travers has noticed this formidable affection,—"Erysipelas of the common mucous membrane" of the windpipe.

In the whole range of this delightful work, I know not of a single passage in it so pregnant with interest, or so touching and pathetic, as what the reader will find at pages 160 and 161 of that volume. It is many years ago now since I first perused it, and the impression it then made upon my mind has not been effaced by a longer intercourse with the work. Like Rasselas, and the Vicar of Wakefield, it may be read with benefit every two or three years in a man's life; and, I am not ashamed to declare, that whensoever I do so myself, I feel, for the moment at least, a wiser and a better man.

The paragraph in question is headed —"Erysipelas of the Mucous Membrane of the Throat." I shall transcribe it *in extenso*:—

"In the year 1819, a poor woman called to consult me, under great distress of mind, having lost her husband a very few days before, from a sore throat. Except a general redness of the fauces, and slight tumefaction, there was nothing to create alarm; but her husband having died of the same disease after a very acute illness,* over which the remedies prescribed had no control, I entered into her misapprehensions, and directed a copious venesection, blistered the throat, and ordered calomel and antimony at short intervals. At present she had no dyspnœa, but a difficulty in swallowing. I desired her to get away from her home, which she did for two days; but, having a family at home, and finding the difficulty of swallowing increase, she returned, took to her bed, and in two or three days died, under symptoms exactly similar to those of her husband. There was high fever, and excitement to convulsion in the attempt to swallow, great tumefaction and irritability of the fauces, and lastly, suffocation from impeded respiration, which took place only a short time before death. In consequence of my being absent, Mr. —— was called to her assistance, and performed the operation of bronchotomy, but without relief. On examination after death, I found the cricoid cartilage had been only divided, and that the edges had fallen together again, so that no permanent aperture existed. The inflammation was confined to the fauces, pharynx, and rima glottidis, the membrane being so tumefied by infiltration as to prevent the passage of food, and lastly, of air. A child was threatened with the disease; but by immediate removal to the hospital the inflammation was cut short before it assumed a fatal character. I ought to add, that I had not the charge of the poor woman's case above related, but saw her at the instance of a respectable practitioner in her neighbourhood, who had attended her husband, and assiduously employed all the known means of arresting inflammation."†

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* Dr. Stewart informed the Society, that "of the thirty cases referred to, above twenty had been operated on, and of these, ten or eleven recovered."

* "The husband died suffocated; and I had been called to perform bronchotomy, but arrived too late: he had expired."

† A "Further Enquiry," &c.

"Among the various affections of the throat requiring the operation of bronchotomy, upon which so many able papers have been given to the profession, is this erysipelas of the common mucous membrane, by some termed cynanche or angina pharyngea, and by others laryngea, although respiration is not primarily affected, acute in its attack, and rapidly fatal, owing to the intumescence or œdema of the inflamed membrane, closing the glottis, and causing suffocation. It is quite distinct from the croup or angina trachealis. Serum is effused into the submucous tissue; but there is no organizable adhesive matter.

"No real relief follows any medical treatment, and beyond a first full bleeding, the further loss of blood is probably injurious. Neither emetics or mercury are of any avail. Bronchotomy, early and efficiently performed, is the patient's only chance."*

[To be continued.]

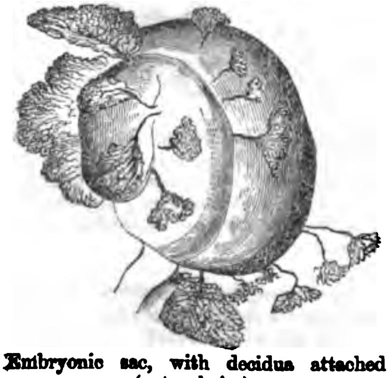
ON THE

DEVELOPMENT OF THE HUMAN EMBRYO.

By C. Spence Bate, Esq.

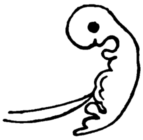
On first removing the human embryo from the membranous sac within which it is confined, about the sixth week, (Fig. 1), the mind is struck at the far nearer resemblance which it bears to the form of the reptiles among vertebrate animals than to the highest order of mammals, (Fig. 2.)

Fig. 1.



Embryonic sac, with decidua attached (natural size).

Fig. 2.



Embryo (natural size).

To watch the process of metamorphosis, from the earliest stage until its arrival at the full development of the adult animal, would be a matter of surpassing interest; but difficulties, some of which must naturally be insurmountable, retard the advancement of observation, as far as relates to viviparous animals: but, fortunately, the organisation of animated nature is developed throughout creation upon the same grand principles and primary laws; so that observations carried on upon one class of organisms can seldom lead us far wrong in the contemplation of analogous phenomena.

Those animals among which the metamorphosis is most readily observed are insects, crustacea, and reptiles.

There is among all these one constant and peculiar feature, which is that the external skin is not concerned in any way with the development of the new form; and that, previously to such being developed, the external protecting skin is thrown off; the new form exhibiting but a greater development of co-existent organs: and this appears to me to hold true, whatever may be the appreciable distinction between the first and last appearance of the embryo and adult animal.

Scarcely can we suppose a greater distinction to exist in the animal creation than that discovered by Mr. Thompson (of Dublin) to be the case between the larva and the adult among the chirripoda; the former being an active swimming creature, with large eyes, and in appearance bearing a strong resemblance to certain enteomostracæ (*Nebalia*); whereas the adult barnacles and balani (acorn-shells) are fixed creatures, possessing no eyes (discoverable), and are liable, from their external form, to be confounded with the molluscs, among which, for a long time, they were classed.

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* Ibid.

But if these animals be closely observed, I think the great difference will be found to exist only in the greater relative development of the branchiæ and anal canal, an arrest having taken place in the development of the other organs which were conspicuous.

The manner in which that increase of development of certain local organs over others takes place, may be best appreciated in the crab, where, upon the loss of any of its limbs, a new one is reproduced. This, by observation, is found to be in connection with the internal pulp from which the new skin is developed, and is only brought into external existence upon the moulting of the whole exuvia.

This, by analogy, would lead us to infer that the external skin or epidermis in the human embryo has nothing whatever to do with the development of the members, but is removed previously to each successive change of form from embryo to man: the skin is not shed as a whole, perhaps, but removed by the repeated waste of the external epithelium scales.

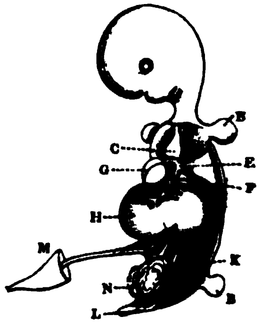
It is not only in the external form that the embryo in this stage bears a resemblance to the lower vertebrate animals, but also in the comparative relations of its internal organs. "The encephalon" (says Dr. Carpenter, in his Manual of Physiology, p. 506, where, also, he gives a figure of the human embryo after Wagner) "consists of a series of vesicles arranged in a line with each other, of which those that represent the cerebrum are the smallest; whilst that which represents the cerebellum is the largest. Between the cerebral and cerebellic vesicles are two others, of which the posterior one is the optic ganglion, and answers to the tubercula quadrigemina: whilst the anterior contains the third ventricle, and corresponds in some degree to the thalami optici. This condition is precisely represented in the lamprey."

Again, in the development of the liver (Fig. 3, H), we see another striking feature which is peculiarly characteristic of certain invertebrata among crustacea and gasteropod mollusca.

The next circumstance which allies the early embryo with the lower vertebrate animals is the absence of the diaphragm—an organ peculiar to mammalia. I wish to make this statement with caution, as having dissected only one specimen; and that having been preserved in spirits, it is not at all impossible that it might have been broken and lost during dissection, though I believe the membrane which is observable between the chorda dorsalis and the margin of the ribs (marked E) to be the rudiments of that muscle, partially buried beneath which may be observed a body consisting of amalgamated nodules (F), which I imagine to represent the spleen; parallel with which, but thrown upon the opposite side of the chorda dorsalis, is the heart, which was distinctly marked into two lobes, above which, in the centre, are the lungs (C), which appear to be very rudimentary.

B B represents the legs and arms: K the chorda dorsalis and commencement of the pelvis; L the caudal appendage, or os coccygis; M the umbilical cord, partially dissected away to show the two veins and artery; N the intestines, which, I believe, from some accident, are exhibited too low in the abdomen.

Fig. 3.

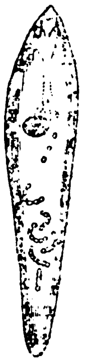


Embryo, showing the internal viscera, &c. B B, arm and leg; C, lungs; E, diaphragm (?); F, spleen; G, heart; H, liver; M, umbilical cord; N, intestines; K, chorda dorsalis; L, caudal termination.

In alluding to the intestines, perhaps the manner in which they are developed in the larva of terebella medusa (one of the marine sedentary annelidæ) may not be uninteresting.

First, isolated cells are seen scattered at irregular distances throughout the course of the prima viæ, (Fig. 4); these cells increase until they meet and form

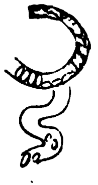
FIG. 4.



Larva of the terebella medusa, showing the first stage of development of the intestinal canal.

a line. The next stage that I have observed is that these cells are inclosed within a membranous wall, (Fig. 5), probably by the coherence of the cells, while fresh cells are generated and passed on to form new structure. This process does not commence at one centre, and progress towards either extremity, but at different centres, each of which proceeds in their development until they all unite and form one persistent canal.

FIG. 5.



The intestinal canal further developed.

Among the earliest bones which commence the ossifying process are the ribs, of which a section is given in fig. 6 from a fœtal calf nine-eighths of an inch long.

FIG. 6.

Section of the ribs and dorsal vertebræ of fœtal calf.

From examination of this section as a whole beneath the microscope, it appears that a substance exists between the temporary cartilage and the periosteum, consisting of nucleated cells in a fluid plasma; and I think it is capable of demonstration, but more easily in the development of the inferior maxillary bones, that this material, as well as the cartilage, takes an active part in the formation of bone; and possibly that, whereas the cancellated structure is developed from cartilage, the more dense external compact tissues are developed from the cells existing in the blastema external to the cartilage.

IMPERFORATE ANUS IN A PIG.

DR. JACKSON exhibited this specimen, sent to the Boston Society by Dr. W. J. Burnett, with the following history. The subject was a male, one of a litter of eight or ten, and was killed when twenty-six days old, having suffered no inconvenience from the malformation, so far as was known. The parts having been removed by Dr. B., there is seen to be no appearance of anus, and the rectum, moderately enlarged, terminates near the surface in a cul-de-sac. The intestine having been inflated and tied, the urethra was cut open; and between one and two inches from the bladder the opening from the rectum is seen, perfectly well marked upon the urethral surface, and yet so small beneath it that the air could not readily be forced through. Externally, the communication appeared as a short, dense, rounded cord, half an inch or more from the extremity of the intestine.

One of the other pigs in the same litter had been killed four days before, having the anus imperforate, and the abdomen somewhat distended, though otherwise it appeared well; no examination was made of the urethra. The rest were well-formed. In a former litter, however, one of the number was reported to have had a common outlet for the rectum and vagina; showing the same tendency to the reproduction of monstrosities at different births that is often seen in the human subject.

Dr. J. alluded to an observation that he had made in the printed catalogue of the Society's Cabinet, that in every one of six cases of imperforate anus in the male (human) subject that he had examined, an opening had been found from the rectum into the urethra; also to a case of Dr. York's, of which he published an account last April in the *Boston Med. and Surg. Journal*, and in which, after an operation by Dr. York, the child lived eighteen months, the fæces passing altogether through the opening into the urethra for the last two months.—*American Journal of the Medical Sciences.*

MEDICAL GAZETTE.

FRIDAY, MARCH 14, 1851.

THE supply of a great metropolis with water in sufficient quantity and of wholesome quality, is a subject of the highest consideration in a sanitary point of view. We are told by the General Board of Health, that the gross *daily* quantity pumped into the metropolis amounts to *forty-four millions of gallons !*[*] This enormous supply is principally derived from the river Thames and its tributary the Lea; and so far as we can judge from various documents before us, it appears to be adequate to the wants of a population of two millions. If, on due inquiry, it should be found inadequate, we believe that it would be in the power of the present Companies to increase it. As it is, the supply has been for many years pretty uniform both during winter and summer; the sources appear to be unfailing, and quite independent of the average rain-fall on a limited area. The Board of Health propose to change the whole system. They condemn the sources from which the water is at present derived; they describe it as so impure and hard, as to be unfit for any dietetic or domestic use; and in short they advise that London should be henceforth wholly supplied by means of rain-water collected on Bagshot Heath!

The question is one of vital interest to the population of London. In order to show that the rain-water scheme may be carried out without risk of deficiency, elaborate calculations on the average rain-fall in the Bagshot district are given: and the examples of towns which are supplied with soft water on a plan similar to that proposed for London, are abundantly cited. As to the first proposition, the serious question arises:—Is a rain-fall, calculated over an average of years, sufficient to replace the enormous quantity at present daily supplied to London by the Metropolitan Companies? On this, as we shall have occasion to show, the evidence is of a very conflicting kind; and we must protest against inferences derived from observations on a small area, and from experiments on a small scale, being made the basis of such a calculation. With regard to the second proposition, the fact that some towns of a few hundred thousand inhabitants can be thus supplied without suffering from drought or occasional deficiency, is no argument in favour of making this experiment on a population of upwards of *two millions*. Any error in the calculation would tell with tenfold force in such a case, and be productive of irreparable mischief. The great question is, however:—Is the Non-medical Board of Health justified in recommending the entire abandonment of the present mode of river-supply. If not, it will be unnecessary to examine further the rain-water scheme: if, on the contrary, their reasons for a change be held valid, then we are prepared to show that other results, dangerous to the health of a population, are likely to flow from the adoption of their plan.

Much of the evidence contained in the Report is really quite irrelevant to the question at issue. In some parts of Southwark, the supply is stated to be so deficient that according to Mr. Bowie, a district surgeon, the houses derive their water from ditches and mill-streams containing filth and refuse from privies, &c. No one can doubt the unwholesomeness of such water, and it indicates in some quarter a very great and cruel neglect of the wants of the pauper population. Another surgeon, after describing the bad quality of the Thames water supplied to Bermondsey, and attributing to it sundry attacks of malignant cholera and diarrhœa which he witnessed, is asked—

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[*] See their Report, 1850, p. 10. The quantity daily supplied to London would cover the area of a square mile to a depth of ninety feet.

> "Are not the water-butts and other receptacles often placed near the privies?—Yes; very generally.
>
> Would not that alone be likely to contaminate water that might be pure at its source?—Yes, certainly; but here it came in with animalculæ in it.*
>
> But you think that the plan of receiving it in butts is bad?—Yes; the *purest* water under such circumstances would soon become impure and a source of disease.
>
> "Have you observed the state of these water-butts?—Yes; very frequently.
>
> "Will you describe their appearance?—Generally speaking the wood becomes decomposed and covered with fungi; and, indeed, I can best describe their condition by terming them filthy. The poor people will not cleanse them; and if you look to their cooking utensils you will likewise see a quantity of dirt deposited.
>
> "Do you think that the deep-spring waters are free from animal impregnations?—I do; and, if used, would undoubtedly very materially diminish the extent of mortality: indeed, I entertain a very strong conviction that the general use of deep-spring water for human consumption would be of the greatest public benefit. During the prevalence of cholera, I repeat, in my own practice and experience it was the most powerful preservative against the epidemic."

Such is the evidence of Mr. Challice; and, if it has any bearing whatever on the water-supply of London, it shows that the Board of Health must not merely undertake to furnish pure water to these districts, but correct the filthy habits of the inhabitants. The water-butts must be removed, and cleanly reservoirs substituted, or a constant supply with its inconveniences maintained. Then the cooking utensils will require closely looking to. Mr. Challice circumstantially informs the Board that the poor people will not cleanse them, and that there is a quantity of dirt deposited in them. Neither the Bagshot nor any other water, soft or hard, will resist contamination by these domestic impurities. But Mr. Challice is totally at issue with the Board on the nature of the water to be substituted: he votes for deep spring water, because it is free from animal impregnations; but, as this contains generally a much larger proportion of mineral matter than river water, it would not suit the purposes of the Board, who profess to regard no water as wholesome or proper which is not *soft*.

The other evidence is of the same loose description. Dr. Gavin states, what no one will deny,—that *cesspool water*, for the purposes of drinking, is nauseous and unwholesome. He specially refers to the case of a *thirsty* navigator who drank of the Hackney Brook (a common sewer), and was almost immediately attacked with cholera, and speedily died. Numerous other cases are mentioned by him in which persons were attacked with diarrhœa after having drunk water contaminated with cesspool matter.

> "These are the more marked instances; but the cases where foul water led to the development of cholera were so numerous, that all the visitors under my superintendence united in their testimony as to the influence of such water in the development of the disease. I have traced in many instances the unsuspected cause of the development of cholera to the state of the drinking water. When it is recollected *that the water of the poor is nearly always exposed to the noxious gases and agencies which arise from privies, and the slow decomposition of the refuse in their yards, and also from those in their close, offensive, and impure dwellings*, it will at once be understood that such water produced much and severe diarrhœa during the period of cholera."

How or in what manner this statement affects the present mode of supply we are at a loss to comprehend. The metropolitan companies do not furnish cesspool water to their customers; and it is not in their power to prevent the water supplied to the poor from being exposed to the noxious gases and agencies which arise from their privies. They are not responsible for the closeness, offensiveness, or impurity of their dwellings, nor can they prevent the slow decomposition of refuse in their yards; and yet the writer of this Report of the Board of Health is disingenuous enough to quote these statements as examples of the "*qualities*" *or* the deficiencies of the water supplied to London.

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* Through the whole of this report we find *animalculæ* employed for the proper plural term *animalcula*. The same error pervades the papers of Dr. Hassall, recently published in the Lancet, on the London water and its impurities.

Again, in the evidence of Dr. Milroy, we find the following statement regarding the water distributed to the poorer classes in the western distrtcts of the metropolis:—

> "Among the most serious evils attending the present system of intermittent supply of water to the dwellings of the poor, is the filthy and polluted state alike of the cisterns and butts into which it is received, and of the vessels in which it is generally kept. Whether the cistern or butt be in or out of doors, it is usually uncovered, and, consequently, exposed to all the dust and smut that are continually flying about even in the cleanest parts of a large city. But this is far from being the only or the worst source of impurity to which it is liable. Not unfrequently, there is no tap at all, and often this is so inconveniently placed that it is scarcely possible to make use of it. Hence the common practice among the inmates of the house is to dip their vessels--no matter of what sort, and whether clean or otherwise—right into the cistern or butt every time that they require to draw water. *Nay, I have heard more than one person say that they have seen people actually rinsing chamber-pots in the water which their neighbours drank and used for cooking.* Of course, this was when the cistern or butt stood in some dark place where they were not likely to be seen. But it seems that when the cistern is outside of the house, it is liable to the same horrible pollution, from the common practice of parties who live in the upper rooms emptying everything out of their windows into the court behind, the cistern being usually placed there between the ashpit and the privy.
>
> "So disgusted are the inmates themselves of even the poorest dwellings, with the water in their butts or cisterns, that very frequently they will use it only for the purpose of washing; and, unless they can catch the water directly from the pipe when it is *on*, they are obliged either to beg it from some neighbour, or (as is frequently the case) get it from the public house where they deal. This appears to be of very common occurrence indeed, even in some tolerably decent localities, and must be admitted to be a flagrant injustice, inasmuch as they are charged indirectly in their rent for what they have little or no benefit from.
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> "A respectable woman living in Rose Street, Covent Garden, told me that, during the whole four years she had lived in the house where she now resides, she had never once been able to use the water from the cistern even for boiling potatoes, far less for making tea, unless she happened to catch it *directly from the pipe as it came in*. Nor will any one who has examined this cistern be surprised at the woman's statement. Besides the ordinary sources of pollution from the dust and smut in the atmosphere, and from slops thrown out of the top windows, this cistern is resorted to by boys in the street, the house door being always open during the day, to wash their hands, and to play all sorts of pranks—such as dipping sprats, when they are in season, drowning mice, &c. &c., in it."

We hardly know what this is intended to prove, except that water in which chamber-pots are rinsed, and mice drowned, is disagreeable, and not fitted for drinking or cooking. It shows that among the poorer classes, the *remittent* supply system is attended with inconveniences, leading to the pollution of water, which the London Companies can neither prevent nor control. Hence it follows that cisterns which are in use among the middle and upper classes are to be abolished, because "all sorts of pranks," such as "drowning mice," "dipping sprats," &c., are played by those who have access to the cisterns and water-butts of the poor. Dr. Milroy furnishes in this extract the very best evidence in favour of the water supplied by the Companies; for the old woman in Rose Street, to whom he so explicitly refers, could only boil her potatoes, or make her tea satisfactorily, when she happened to catch it (i. *e.* the water) *directly from the pipe as it came in.* It is quite clear that she found the dipping of sprats and the drowning of mice did not improve its quality.

We subjoin another choice piece of evidence by Mr. Bowie, who was directed to make special inquiries on the part of the Metropolitan Sanitary Commission, as to the supply of water in the City of London:—

> "'The water in the cistern is only fit to rinse a pail or cleanse the privy, as every impurity gets into it. It has even been used for drowning kittens. Two open tubs stand behind the door of the kitchen as water butts, and have *only been cleansed out once in the nine years.*' 'The water (supplied from a *pump*) is shockingly bad, tasting as if they were drinking something putrified, and often containing live worms more than an inch long, supposed to be from the burying-ground at the back of the house.' In addition to this a gulley-hole is in close connexion with the pump, by which foul water may find its way into the well."

Statements of this kind are only calculated to bring to light the unclean habits of the pauper population of London. They undoubtedly show that in some quarters of the metropolis there is a great deficiency of water; but does this arise from the present daily supply of forty-four millions of gallons being inadequate, or from the Companies being unwilling to lay down pipes, and furnish water *gratuitously* to all those who are unwilling or unable to pay for it? We do not believe that the present supply is inadequate; and, hence, the only inference is, that under the new system the Government propose to lay on a constant diurnal supply to the house of every poor person now accustomed to rely upon cesspool water, and churchyard springs. This is undoubtedly a very laudable proposition; and we do not see why the Board of Health should not, in the first instance, try their experimental system upon those who are unsupplied by the Companies, without compelling the whole community to rely upon their meteorological averages for so important an article as water. We do not know by what means the Board of Health can prevent the pure Bagshot water from being used for the purpose of drowning kittens or mice, or prevent its being received into water-butts cleansed only once in nine years; but it must, we think, be evident to our readers, that statements such as these are only calculated to blind the eyes of the public to the real question at issue. In the first thirty pages of the Report we do not find a single fact which affects the present mode of supply. If the London water is to have its average qualities determined by an examination of the contents of dirty water-butts or cisterns, kept in the vicinity of privies, or under free access to every pollution, intentional or accidental, then we say it is a most unfair way of dealing with a very important question: and, yet, this is the principle on which the Board of Health have proceeded. They have mixed up the questions of quantity and quality; and their published statements of quality refer to the water, not as it is sent from the Companies' reservoirs, but to that which has been allowed to stand in exposed water-butts and cisterns, under conditions favourable to putrefaction.

There are, undoubtedly, many points in which the present water-supply of London will admit of improvement. A reduction in cost, a good system of filtration, and a more extensive distribution, would be attended with great benefit to all classes, but especially to the poor. The desire of centralization and patronage, however, induces the Board of Health to propose themselves as Water Merchants; and their first object, therefore, is to abolish, by an Act of the Legislature, the whole of the Metropolitan Companies. They have not the candour to admit that the first part of their Report, in reference to the *state of the water* distributed to the Eastern and Western districts of the Metropolis, is calculated to convey an erroneous impression to the public. It is not the state of the water as ***distributed,*** but as ***collected,*** and kept under circumstances which must render it unfit for human use, that, according to the evidence furnished to them, forms a fair subject of complaint. The foulness of cisterns is an objection to the use of cisterns, where persons will not take the proper precaution to cleanse them; it is no objection to the quality of the water actually supplied: and we should be glad to know the nature of the precautions which the gentlemen who sign this Report propose to adopt, in order to prevent their very "pure water" from becoming impure and unfit for use, in the districts in which this complaint is now raised against the use of Thames water.

The whole of this question has been involved in so much exaggeration and misrepresentation, that the present mode of water-supply incurs some risk of being condemned unheard. The subject has a hygienic importance which cannot be overrated, and at a future time, in considering the qualities of water for dietetic and domestic use, we shall endeavour so to direct our remarks as to give them a practical and universal application. In our "Analytical Sanitary Commission" we hope to show that the results by which the Board of Health have arrived at their conclusions are "cooked," and that it would be unwise and unsafe to rely upon them.

Reviews.

Medicines; their Uses and Administration; including a complete Conspectus of the Three British Pharmacopœias, an Account of all New Remedies, and an Appendix of Formulæ. By J. Moore Neligan, M.D. Edin., M.R.I.A., Licentiate of the College of Physicians of Ireland, Physician to the Jervis Street Hospital, &c. &c. &c. 3d edition, 8vo. pp. 555. Dublin: Fannin. London: Longmans Edinburgh: Maclachlan and Co. 1851.

Dr. Neligan's work has too world-wide a reputation to require, in its third edition, a very long notice from our pen. It is well known to be a strictly practical work, dealing more with the direct and obvious effects of medicines than entering largely into theoretical speculations on their modes of action. The present retains the arrangement of the two former editions, but is considerably enlarged. "The additions," the author informs us, "have been chiefly made in the account of the therapeutical effects of individual medicines; the introductory remarks to each chapter have been somewhat extended: but it must be remembered that these remarks are necessarily concise, and are to be regarded as mere outline sketches; the author intending them to be *introductory*, and not to supply a general knowledge of therapeutics."

The classification adopted, which is based on the most common use of the various remedies, *e. g.*, Antacids, Anthelmintics, Antispasmodics, Astringents, &c. &c., while it has the advantage of ready reference, may be regarded as so far defective, that all the properties of a remedy found under any one head will not be there described, but must be sought for in other portions of the works. It is true that a copious index to some extent remedies this defect; but it still remains to a degree unremoved, while the same drug has different actions, according to its dose and state of the constitution of the patient at the time of administration.

The present edition is furnished with a nosological table, and with very copious formulæ for the exhibition of all the remedies of which mention is made in the body of the work. The practitioner will find this book of great assistance in prescribing and in preparing medicines.

The Scale of Medicines with which Merchant Vessels are to be furnished, by command of the Privy Council for Trade, &c. &c. By T. Spencer Wells, F.R.C.S., Surgeon, Royal Navy. Small 8vo. pp. 190. London: W. S. Orr and Co. 1851.

Those of our readers who have ever inspected the medicine-chests with which many ships of the merchant service have been hitherto supplied, must be fully alive to the need of some enactment under which, in the absence of a surgeon, at least a useful stock of medicines should be taken to sea; and these accompanied with such printed directions for their use as should be authoritatively known to be judicious, and, as far as possible, safe in non-professional hands. For want of some such regulations there is no doubt that the lives of many able seamen have been sacrificed. The captain of the ship too often had to undertake the offices of the clergyman in the performance of the burial service, after he had assumed the functions of the doctor without either practical information or book to guide him, unless we admit as such the faulty "lists" which were usually inclosed in the chests, and which for most diseases enjoined bleeding, calomel, jalap, &c., the captain acting as the phlebotomist.

Such, however, we are glad to find, is no longer the case. "In 1844, the scale of medicines with which every merchant vessel, not carrying a surgeon, was to be furnished, in pursuance of Act 7 and 8 Vic., cap. 112, by command of the Lords of the Admiralty, was drawn under the direction and superintendence of Sir William Burnett, Director-General of the Medical Department of the Navy, by the late Dr. M'Arthur. During the late Parliamentary session Mr. Labouchere's Mercantile Marine Act was passed, and the duty of issuing the 'Scale of Medicines' for merchant vessels was transferred from the Lords of the Admiralty to the Board of Trade."

The work now before us is in conformity with the objects of that enactment. Its intentions are, avoiding all technical phrases, to instruct men of average intelligence how they may preserve the health of the men under their command; or, when disease or accident occurs, to inform them how they may place the patient under the most favourable circumstances for recovery, and how they may avoid doing harm with medicines. We have looked through it, and consider it in every respect well adapted to its intended object.

Any man of common sense may safely follow the instructions contained in this little work; it will, therefore, be found equally serviceable to missionaries, clergymen, settlers, and many others placed beyond the reach of medical aid.

Der Kriegs-und-Friedens-Typhus in den Armëen. Ein Beitrag zu einer künftigen Gesundheitspflege in den Kriegsheeren. Von Dr. C. F. Riecke. Regimentzarzt im Königl. Preuss, Kadetten-Corps. Erster Theil. 8vo. pp. 378. Nordhausen: Büchling. 1850.

The Influence of War and Peace on Typhus in the Army: a Contribution to Military Hygiene. By Dr. C. F. Riecke. Part I. 1850.

The author considers that no apology is requisite for having given to typhus the very first rank in importance with reference to the diseases of armies, of all of which he purposes to write a full history.

Typhus has undoubtedly been the severest plague of the human race, and it has been more especially the scourge of armies. This work, therefore, by presenting a complete history of the disease as met with in civil and military practice,—of its causes,—and of the means of its prevention,—is entitled to the attention of army medical officers in every country in which this fearful pestilence exists. In all temperate climates its ravages equal, if they do not even exceed, those of the more especial scourges of tropical countries. The importance of its study cannot, therefore, be easily overrated.

In the first section of his work, Dr. Riecke offers some general observations on the nature, course, infectiousness, and results of the disease, tracing in its essential features a general dyscrasy, or morbid condition, of the blood.

In the second section, the author describes those diseases which have an analogy with, or apparent relation to, typhus in their essential characters, their origin and course. Diarrhœa and dysentery, the author observes, have common causes with typhus; they often precede and follow typhus, and are extensively prevalent in, and fatal to, armies. Of this coincidence the author adduces instances from Pringle, and other writers, besides those from his own experience. Cholera, ague, scurvy, puerperal fever, chlorosis, tuberculosis, epidemics among the lower animals, are severally considered by Dr. Riecke as presenting analogies with typhus through the morbid state of the blood which each exhibits.

The third section treats of the general *causes* of typhus, among which the author particularly points out the unfavourable hygienic condition to which armies are frequently exposed. He especially treats of the causes of its occurrence among the Prussian soldiery, —*e. g.*, the vicissitudes and exposures of their mode of life, the quality of their food, and the conditions of their dwellings.

The author, in the next place, gives an historical sketch of army-typhus as it has appeared in the armies of other kingdoms. This sketch occupies the larger portion of the work, and possesses great interest for the military surgeon, being a very full statistical investigation, and throwing considerable light on the circumstances which lead to the diffusion of contagious diseases generally among soldiers.

This interesting historical sketch is followed by suggestions on the improvement of military hygiène, and the prevention of the spread of the *infection* of typhus. In reference to the latter, the author points out the fact that cases of fever are often congregated together, in consequence of the assembling of the soldiers from extensive districts at one point, in obedience to a sudden call to arms; owing to the circumstance that every subject in the Prussian states is bound to render military service, and, in time of war, may be called upon to quit his home and repair to the Army. As an example of this influence, Dr. Riecke states that, in 1832, an army was raised from the northern states, which had the effect of bringing together between five and six thousand cases of intermittent fever. It is in this part of the work that the author treats of what he has called on his title-page the Peace-Relations of Typhus in the Army. The topics here discussed, although not so strictly applying to the British army, owing to the difference in the nature of its levy and system of recruiting, are, notwithstanding, to a certain extent applicable even here, from the mode adopted in England of quartering soldiers in the public-houses of towns not possessing barracks

It is in this point of view that the prevention of typhus becomes of practical importance to the military medical officer. It is not, as the author with much truth observes, in the combating of any peculiar atmospheric or terrestrial causes that the prevention of typhus consists, but in the observation of the best sanitary precautions with reference to diet, dwelling, and clothing, whether the disease occur in civil or *military* life.

Dr. Riecke concludes his work by offering suggestions for a reform of the medical department of the Prussian army. He also adds a section on the various diseases which have made up the mortality of the Prussian army during the period of twenty-four years—from 1820 to 1844. These are arranged in a tabular form.

To all military surgeons, and to pathologists in general, this treatise will prove both interesting and instructive.

Observations on the Epidemic Ophthalmia which has prevailed in the Workhouses and Schools of the Tipperary and Athlone Unions. By WILLIAM R. WILDE, F.R.C.S.I., Surgeon to the St. Mark's Ophthalmic Hospital, Dublin, &c. Pamphlet, 8vo. pp. 27. Dublin: McGlashan. 1851.

THIS pamphlet, which is reprinted from the London Journal of Medicine, presents a striking instance of the power of external circumstances in the production of disease. It relates the occurrence of a formidable epidemic ophthalmia originating from neglect of the commonnest hygienic conditions. It relates, also, the curative and preventive measures adopted for the removal of this disease, which Mr. Wilde describes as in every respect resembling the Egyptian ophthalmia—so closely, indeed, that the author remarks, "I was strongly reminded, during the day I spent in Tipperary, of scenes I had witnessed many years ago in the bazaars of Egypt." This paper forms a valuable contribution to the history of ophthalmic disease.

On the Treatment of Cancer by the regulated Application of an Anæsthetic Temperature. By JAMES ARNOTT, M.D., formerly Superintending Surgeon at St Helena. Pamphlet, 8vo. pp. 32. London: Churchill. 1851.

WE have on a previous occasion* brought under the notice of our readers Dr. Arnott's plan of producing anæsthesia by the local application of benumbing cold, and its employment in headache. Dr. Arnott has since then published the proposal to use the same means in the treatment of cholera.† We have now, in the pamphlet before us, the result of Dr. Arnott's treatment of *cancer* by the same agency. It is with the highest satisfaction, Dr. Arnott remarks, that he is "able to make known a mode of treatment which not only fulfils the highest purposes of a palliative, in giving immediate relief and in prolonging life, but which also holds out greater promise of proving permanently curative than any means hitherto brought forward." . . . "Experience has proved that cancer, in its common conditions and localities, may be rendered almost painless without disturbing the functions of the brain or other organs." We suppose that few will dispute the inference drawn by Dr. Arnott, that, "even were the benefit conferred by an anæsthetic temperature to be limited to this, there are few recent medical discoveries of a practical character which would exceed it in importance."

The author relates several cases of cancer, both of the breast and of the uterus, in which benumbing cold has been applied by himself with the successful result of suspending pain and arresting the progress of the disease. On the curative power of this treatment Dr. Arnott wisely suspends his opinion until the lapse of time shall have afforded him the data whence to draw his conclusions.

We refer our readers to this little essay, which explains the mode of application of the proper degree of cold in each form of the disease, as well as the general principles of this mode of treatment. The successful results here ascribed to it, if confirmed by further experience, will confer an invaluable boon upon the sufferers from a hitherto incurable disease.

On the Action of the Muscular Coat of the Bronchial Tubes in Respiration. By C. RADCLYFFE HALL, M.D., M.R.C.S.E., &c. &c. Pamphlet, 8vo. pp. 24. Worcester: Deighton. 1850.

THE object which the writer has in view in this essay, is to show that the views of Reisseissen with regard to the rhythmical action of the muscular coat of the bronchial tubes, although discountenanced by the latest writers on physiology, are not without foundation. The several objections which have been urged are discussed by Dr. Hall, and arguments and experiments are adduced which go to confirm the statement that the muscular fibres of the bronchial tube exercise a regular rhythmical action in respiration. The nature and extent of this action are fully demonstrated by the author, who has thus added to our knowledge of the physiology of respiration.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

February 4, 1851.

PRESIDENT—DR. LATHAM.

DR. BEITH, R.N., exhibited a specimen o

Sacculated Bladder and Enlarged Prostat Gland,

which he had removed from a man at the advanced age of 103 years. For some time past the only inconvenience he experienced arose from incontinence of urine. A week before death he stumbled whilst walking, and fell; and though no local injury was sustained, the general shock to the system obliged him to take to his bed, from which he never again rose, having sunk gradually without complaint, and showing no appreciable signs of disease. He had enjoyed during his long life an almost uninterrupted continuance of good health; and his faculties to the last were unimpaired. His sight was good, hearing acute, and memory tenacious. He might, indeed, be looked upon as a fine example of a hale, hearty old man. Dr. Beith stated that he thought it might be interesting to the Society to learn that, in connection with this lengthened age and continuous health, the body presented after death an universally normal set of organs, with the single exception he had placed before the Fellows; and that indication which we ordinarily look upon as so significant of advanced years, the *arcus senilis*, was wanting. The bladder was seen to be much enlarged in capacity, with greatly thickened walls, which in some parts, presented a columnar arrangement. An opening of small size, at the inferior fundus, leads from the cavity of the viscus into a large pouch, which contained a thick, fœtid, greenish-yellow fluid, and the parietes of the cyst were in a sloughy state. A communication existed between this pouch and an abscess placed between the bladder and pubes. The prostate gland is considerably enlarged, irregular in form, and of scirrhous hardness. On a section of it, several brownish calculi, varying in size from a poppy to a millet-seed, were seen occupying some of the ducts. In looking upon the neck of the bladder within, the gland is seen to project there in a circular and lobulated form. The urethra presents, close to its bulb, the orifice of a false passage, and a second exists near the prostate: these lead into sinuses which extend backwards, and communicate beneath, and at the sides of the gland, with a large open-worked cellular cavity.

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* Vol. xliv. p. 295.

† Ibid, p. 373.

Dr. Ogle exhibited a specimen which consisted of a

Deposit of Scrofulous Matter in the Cavity of the Uterus and both Ovaries.

The uterus was somewhat above the usual size. The whole of the internal surface was occupied by a quantity of lightish-coloured caseous matter, the mucous membrane being destroyed, with the exception of that of the cervix, where the lining membrane had a number of small miliary deposits underneath it, but was itself entire. At the fundus of the uterus this deposit was much thicker and firmer than elsewhere, and encroached upon the walls of the uterus, having a definite outline, as if a crude tubercle. The walls of the uterus in other parts were unaffected. The openings of the fallopian tubes into the cavity of the uterus were entirely occluded; but the tubes themselves did not seem altered. The ovaries were both of them completely disorganised; they were much enlarged, and their structure occupied by a quantity of darkish coloured substance, looking something like the contents of a vomica in the lung, and surrounded by a denser substance, like the deposit in the uterus. In addition to these morbid deposits there existed indications of extensive and general peritonitis, by which the lower portions of the small intestines were agglutinated, and the uterus with its appendages was so completely matted together as to constitute a large mass filling up the pelvic cavity.

The peritonitis seemed to depend upon one or two perforations of the ileum, arising from ulcerated glands, of which several existed; these perforations were only obviated by adhesions of the intestines. Besides these indications of a general tubercular condition, the lungs were almost wholly occupied by miliary tubercles, which, at the apices, had proceeded in one or two instances to the formation of vomicæ; there existed also a considerable quantity of a clear darkish fluid in the pleural cavities. The specimen was taken from an unmarried person, who came into St. George's Hospital with disease of the right sterno-clavicular articulation, which had existed for six months, in the form of an abscess. The abscess opened spontaneously, and the joint became entirely disorganised; exposure, with slight caries of the contiguous portions of the sternum and clavicle, supervening. While in the hospital cough came on to a great extent, but unaccompanied by expectoration. She died about the middle of January. These specimens appear somewhat infrequent, as, during the last ten years, there have been but five instances found at St. George's Hospital in all the post-mortem examinations. In two instances the fallopian tubes were affected as well as the uterus, one of the uteri being affected as to its cavity, the other as to its external surface. In another instance the ovaries and fallopian tubes were alone involved. In another the ovaries alone were affected. In the last remaining case the cervix of the uterus was the only part affected.

Feb. 18, 1851.

Mr. Canton exhibited a specimen of

Chronic Rheumatic Arthritis of the Hip.

The patient was a man about fifty years of age, who had long suffered with the symptoms characterising this affection. No further peculiar morbid appearances were described than those which had been mentioned to the Society previously, in reference to specimens of the complaint in this and other articulations; but Mr. Canton drew attention especially to the horizontal bearing of the neck of the femur, and stated that, according to his observations, it was only when the above disease affected the hip-joints that the *rectangular* position of the cervix was assumed. He had for some time past been in the habit of examining the neck of the femur in old persons, and found that though they ordinarily (and particularly in females) were shorter than at earlier periods of life, there was not, withal, that amount of variation in their bearing, in respect to the shaft of the bone, that is so commonly believed to obtain in advanced years, and in the absence of even slight traces of chronic rheumatic arthritis of the hip-joint; but if the really horizontal cervix be met with, the head of the bone and the acetabulum will indicate the connection existing between their morbid condition and the change in direction which the cervix has undergone.

Mr. Avery exhibited

Two Cases of Aneurismal Tumors,

in one of which the disease had run its course without surgical interference; in the other a ligature had been applied. The first was from a man, æt. 74, admitted, under his care, in the Charing Cross Hospital, on the 7th of January, in a very feeble condition. Two years previously he had noticed a small tumor in the groin, which disappeared, he says, under treatment, and again observed it swelling in the same situation shortly after. It enlarged gradually, and caused very little inconvenience till within three months of his admission, when, on exerting himself on moving heavy furniture, he found the tumor suddenly increase in size. From that period it continued to enlarge, throbbed violently, caused much pain, and obliged him to keep his bed. On his admission a swelling, as large as a small orange, presented itself at the upper and inner part of the right thigh. From three inches below Poupart's ligament the tumor could be traced up under Poupart's ligament, and into the iliac fossa, which appeared nearly filled by it. Strong pulsation, and a loud aneurismal bruit, were quite general in every part of the enlargement. A distinct pulsating vessel could be distinguished by thrusting the finger into the abdomen towards the common iliac artery. The pain of the part was exceedingly severe, and he could only obtain rest in a sitting posture. The limb was much enlarged, pale and œdematous. The day after admission the pulsation suddenly ceased, and the day after that the swelling was much reduced. He was much easier, could nearly assume the recumbent posture, and the size of the limb had diminished. In four days there were decided signs of mortification. One large bladder occupied the whole of the back of the leg, was filled with brownish serum, and long stripes of a whitish-yellow colour, like parchment, ran in front of the tibia. He died on the 28th of January, three weeks after the cessation of the pulsation. The examination showed that the disease had commenced in the femoral artery and the origin of the profunda. A rough rent, more than an inch and a half in length, in the posterior wall of these arteries, communicated with a very large irregular cavity, forming several compartments, and occupying the upper part of the thigh, and extending upwards into the iliac fossa. A portion of firmly condensed cellular sac was distinguishable near the rent in the artery, and indicated the original tumor; but the limits of the rest of the sac were formed by the muscular tissues, amongst which the blood had been effused. Here and there there were some laminated layers of decolourized fibrin in the cavity, and soft masses of paler coagula; but the greatest portion was filled with a dark coagulum. At the highest part of the cavity blood had escaped under the peritoneum, and extended in small quantities as far as the kidneys. Just below the origin of the epigastric, the femoral artery was closed by a firm whitish plug, which must have completely prevented any supply of blood to the tumor in that direction. The profunda was also plugged in a similar manner immediately as it left the sac, but was open below. The superficial femoral was filled in its whole length by a firm clot, decolourized above, but below dark and fleshy, distending the artery into a firm rod, and having a small canal, which would admit a pin, running up its centre. The femoral vein was closed in its whole course by a clot of older date, as it was firmer, more contracted, decolourized, and adherent; and particularly at its commencement, where the pressure of the tumor was greatest, it was extremely difficult to trace what had been the cavity of the vein. From the appearances of the vein and artery in this position, this seemed to be an instance in which spontaneous cure had commenced, by the obliteration of the artery above the aneurism, from the pressure of the tumor itself. The patient's age, condition, and the state of lungs (which were studded by tubercles, small cavities, and hepatized), precluded any chance of a favourable termination. There was much steatomatous degeneration of the aorta; and above the cœliac axis there was an aneurism, the size of a nut, in which the internal and middle coats looked as if they ad been cut out with a punch, and the ellular coat only formed the outer investment. The cavity of this sac was almost closed by firm, laminated, pale coagula, which almost filled it, leaving a hollow scarcely large enough to contain a pea: this being another form in which spontaneous cure of the aneurism had commenced.

The second case was under Mr. Hancock. A powerful man, æt. 31, strained himself eighteen months ago, and complained for some time after of pain in the ham. Two months before going to the hospital he perceived a swelling and throbbing in the ham; this increased to the size of a small orange, but could be almost emptied by pressure. He suffered much pain, and would not submit to compression, but determined to have the artery tied. He had been, it was afterwards ascertained, in the habit of drinking largely. Soon after the ligature had been placed on the femoral artery he suffered great constitutional disturbance, and delirium tremens supervened, and he died the ninth day after the operation. The temperature of the limb had kept up, and there was no disturbance about the wound, or appearance of mortification of the leg. The ligature had been placed about two inches below the origin of the profunda, and still held to a portion of the artery. Just below the origin of the profunda there was a loose pale coagulum, which was adherent, and closed the artery to the extent of half an inch. Between this and the ligature there was no plug, and the artery contained a small quantity of dark sanious fluid, which escaped upon pressure. There was no plug below the ligature, but the artery contained the same dark fluid. The artery remained pervious down to the tumor in the ham, but was closed by a firm whitish plug at the point of entrance into the aneurismal sac. The continuation of the popliteal artery was also firmly plugged. There was a space of an inch between the two openings in the sac, which contained scarcely any laminated layers, but was filled with dark coagulum of the consistence and colour of black currant jelly: and the sac was only distinct in the immediate neighbourhood of the artery, the remainder being connected with the muscles around. No other serious organic disease existed.

Mr. Jay exhibited a specimen of

Aneurism of the Aorta bursting into the Pericardium,

taken from a female, æt. 64, who was found dead in her room. She had not complained of previous indisposition, and had enjoyed invariable good health. Latterly she had been the subject of anxiety and some privation. On examination, the pericardium was found filled by a large coagulum, the blood having escaped through the rupture of a small sac situated about two inches above the root of the aorta, or just within the part where the vessel is covered by the pericardium. This aneurismal sac communicates with the aorta by means of an opening which admits the point of the finger, and is of a nearly circular form. The sac of the aneurism is directed downward towards the pericardium for about half an inch: at the lowest part of the sac, the only investment is the pericardium, rupture of the internal and middle coats having taken place. The rupture of the aneurism was very small. The coats of the aorta presented abundant atheromatous and calcareous deposits. The heart was healthy, with the exception of slight thickening of the sigmoid valves; and it appeared to have been much compressed by the effused blood.

EPIDEMIOLOGICAL SOCIETY.

March 3, 1851.

THE PRESIDENT IN THE CHAIR.

Some Account of the Yellow Fever Epidemy by which Brazil was invaded in the latter part of the Year 1849. By J. O. M'William, M.D., F.R.S., &c. &c.

Dr. M'William opened the subject of his paper, by taking a rapid glance at the more prominent physical features of Brazil, noticing the great extent of territory comprehended in that empire, the division of its surface into high central table lands, traversed by serrated mountain ranges and lowlands, which, bounding the southern part of the country, sweep along its outer side or sea board, and then, taking a northerly and westerly course, continue low and inclining as far as the rich and vast plain of the Amazon.

Notwithstanding that Brazil is situated in chief part within the southern tropic, and that its soil abounds in those conditions which, theoretically, are supposed to induce yellow fever and other tropical diseases, the whole country had hitherto been remarkable only for its surpassing beauty and salubrity.

Yellow fever might rage in the neighbouring countries, the Guyanas, but, until 1849, the Equator had, at all events for nearly a century, been considered the barrier against the progress of that pestilence southward.

In 1849, however, the yellow fever passed this boundary, and first appeared at Bahia, situate in 13° South latitude; next at Pernambuco, in 8° South latitude; and then at Rio de Janeiro, in 22° 53′ S. It afterwards spread North and South to many other parts of the Empire, not, however, in the ratio of their proximity to each other, but in the ratio of their greater or lesser intercourse with the parts first infected.

The evidence of the importation of the disease into the three chief ports of the empire by infected vessels, although not of a nature so absolute, or so positively demonstrative, as in the case of the "Eclair," at Boa Vista, in the Cape de Verdes, is still considered by Dr. M'William so highly presumptive, that backed as it is by the previous immunity of the country from yellow fever,—by the fact that no where in these ports did fever appear before the arrival of a vessel that had either suffered from the disease, or had left an infected port,—by the many instances of positive contagious propagation which were manifested during the progress of the epidemy throughout the country, and by the important circumstance that ports which rigorously enforced quarantine, and ports having no intercourse with infected places, entirely escaped the disease, seem to leave no doubt as to the recent Brazil epidemy being of foreign origin.

At Rio de Janiero it appears that when people infected with the fever fled to an elevation of 3000 feet, and even less, above the sea level, the disease was speedily annihilated, and none of the mountain residents were infected,—a fact quite in accordance with what was observed by Humboldt in Mexico.

"The farm of L'Encero," says this great "Oracle of Nature," "3043 feet above the ocean, is the highest limit of the 'Vomito,' and the inferior limit of the oaks, and warn the colonist, who inhabits the central table land, how far he may descend towards the court without dread of the mortal disease, the vomito."

Judging from the whole tenor of the evidence, Dr. M'William is of opinion that the following conclusions are fully borne out.

1st. That the Brazil yellow fever epidemy did not arise from endemical sources.

a. Because notwithstanding the presence of supposed endemical causes, yellow fever has been for nearly a century unknown in that country.

b. Because places where endemical influences were most abundant escaped altogether.

2. That the epidemy did not depend upon any general morbific agency, either stagnant in, or travelling through, the atmosphere.

a. Because while some places were affected by the fever, others near to them, and under the same conditions of soil and climate, remained free.

b. Because the disease sometimes followed the course of the South-east trade wind, and at other times travelled in the teeth of that wind.

3. That the evidence of the importation of yellow fever into Bahia, Pernambuco, and Rio de Janiero, although not of so absolute and positive a nature as the case of the "Eclair" at Boa Vista in the Cape de Verds afforded, is still so strongly presumptive as to warrant the belief that the disease was a foreign introduction into these and the other parts of the Brazilian Empire.

a. Because each of these ports was healthy before the arrival of a vessel with yellow fever, or from an infected port.

b. Because after the appearance of the disease on shore, its spread was by the law of contagious diseases; and because positive evidence of contagious propagation was manifested in several cases.

c. Because ports, having little or no communication with infected places, and ports at which quarantine measures were adopted, entirely escaped the disease.

Lastly, yellow fever, unlike cholera and typhus fever, which may prevail at ordinary and even at extraordinary temperatures, requires a high tempearture for its maintenance. It is even driven from the flats of intertropical Mexico, between the months of November and March, when the mean heat does not exceed 71° Fahrenheit. Whenever the disease has prevailed in the old world, it has always been preceded by a season of unusually high temperature. The mean temperature of the hottest month in England does not exceed 71° 3′ Fahr.

Hence, experience warrants the conclusion, that yellow fever, even if introduced into this country, can never find even a brief abiding-place there.

ACADEMY OF MEDICINE, PARIS.

Feb. 25, 1851.

Application of Metal Plates in the Treatment of Affections of the Nerves.

M. Burg called the attention of the Academy to the four following propositions:—1. That the greater number of affections denominated nervous (hysterical, hypochondriac, and certain neuralgic) present almost always, if not invariably, a negative state more or less distinct, according to their gravity. 2. In almost all cases of loss of sensibility or of motility, these functions are restored by the application, on the affected part, of a plate of metal, under certain conditions as yet unknown. 3. All patients treated by an armature which affects both the sensibility and motility, are, in cases where one or both are impaired, rapidly cured of their spasms, neuralgia, &c., of however long standing the malady may have been. 4. The only difficulty consists in the selection of the metal that is suited to each case.

March 4th.

Dr. **Garnier-Leteurrer** instituted a parallel between sporadic yellow fever and the serious attacks of jaundice from which the soldiers had suffered in Italy, in 1849; and demonstrated the identity of the two affections.

SURGICAL SOCIETY OF PARIS.

February 26, 1851.

Erectile Tumor of the Orbit.

M. **Lenoir** exhibited to the Society a young woman, twenty-six years of age, suffering from a tumor in the orbit. The patient possessed a good constitution, and was in perfect health. A year ago she fell down a staircase, and struck her head violently against a step. Since that time she had constantly experienced headache, at first general, afterwards confined to the left side. Six months since exophthalmia commenced, attended with acute pain. At the time she was exhibited the eye was entirely expelled from the orbit, the upper part of which was filled with a tumor extending to the temporal fossa. The tumor was soft, and partially reducible by pressure: it pulsated synchronously with the arteries, the pulsation ceasing and the size of the tumor being diminished by compression of the carotid artery. Vision was not destroyed, but had become myopic. M. Lenoir proposed to tie the carotid.

It must be added that this young woman presented an instance of the absence of the sterno-cleido-mastoid muscle on the right side, without any impairment of the movements of the head.

Removal of both Superior Maxillary Bones.

M. **Maisonneuve** related a case of a young woman upon whom he had performed this operation for the cure of a nasal polypus. A vertical incision was made through the skin from the root of the nose, dividing the upper lip; a transverse incision was made from the internal angle of one eye across to that of the other; two triangular flaps were thus formed, and dissected back to the external angles of the eyes. A chain saw was passed through the os unguis on each side, and the root of the nose thus divided; the chain saw passed through the spheno-maxillary fossa divided the attachments of the malar bone; a transverse incision posteriorly sufficed to detach the velum palati, and the mass of bone thus isolated was easily removed. An enormous chasm was left in the middle of the face. Very little hæmorrhage occurred. The polypus was found to proceed from the periosteum, the bones remaining healthy. The patient had recovered the power of swallowing, and was restored to health.

ACADEMY OF SCIENCES, PARIS.

February 25, 1851.

Treatment of Morbid Erections of the Genitals.

Dr. **Pistach** transmitted an essay on the treatment of morbid erections, by compression of the prepuce. The author treated of these erections under the several varieties, syphilitic, essential (satyriasis and priapism) sympathetic, (from irritation at the neck of the bladder) and synergic (from the action of cantharides, or from ascarides in the rectum). The following conclusions present a summary of the author's views:—1. In order to prevent nocturnal erections the prepuce should be tied moderately firmly, before the glans, when the patient lies down in bed. 2. This means may be employed in syphilis, in priapism, and in all cases of morbid erections. 3. The treatment is easily applied at all times, provided the patient be not circumcised.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Hernia.

In accordance with our promise on a former occasion, that we should lay before our readers the particulars of every case which has been operated upon, in order that, if possible, sufficient data may be furnished by which some correct conclusion can be arrived at as to the relative merits of the two methods of operating with and without opening the sac, or rather as to the expediency and propriety of employing the latter operation, we shall give the particulars of the last case which has been in the hospital, and which, unfortunately, has turned out to be fatal.

An old woman, between 60 and 70, was

brought into the hospital on Monday, 10th of February, at 2 P.M., suffering with a strangulated femoral hernia on the left side: it appears she had carried a rupture for only a few months. On the Wednesday previous she had her last evacuation from the bowels, and after that strangulation commenced. The patient was seen by a practitioner, who, amongst other measures, made several attempts to reduce the hernia. Unfortunately the patient was allowed to go over the greater part of a week before she was sent into hospital, when she was admitted as before stated. When admitted, there was no very great severity of symptoms, with the exception of vomiting, which had commenced on Thursday previous, and had gone on constantly: it was not observed whether the matter vomited was stercoraceous or not. There was no great pain in the abdomen, and very little distension. Mr. Partridge saw the woman soon after admission, and seeing that the case admitted of no delay, at once proceeded to the operation. He made a transverse cut across the tumor, and got down to the sac, which was thin, and through which he could see the intestine, apparently tolerably healthy. He therefore endeavoured to return it by dividing the stricture outside the sac, and was enabled to do so. The patient, however, did not rally from the operation, and died in about four hours.

On a post-mortem examination the next day, the following appearances were noticed:—The small intestines, for a considerable extent, were intensely inflamed, lymph being deposited in abundance on their peritoneal surfaces. In the cavity of the abdomen was a considerable quantity of fluid fæcal matter, which had escaped from the strangulated portion of bowel, part of the ileum, only a small knuckle of intestine, which had evidently been firmly gripped by the stricture. Just at the spot where it had been constricted was an ulcer, little less than a threepenny-piece, by which the contents of the gut had escaped. In other respects the portion of gut was inflamed and congested, but not by any means to a great extent. The intestine was quite free from the sac, and this latter was found to be inverted within the cavity of the belly.

As in the former two cases good illustrations were given of the benefit of operating in hernia without laying open the sac, so we have, in the one just narrated, an argument against the proceeding; at least, to a certain extent. Must we consider that the appearances observed in this instance after death can be brought forward as evidence against this operation? One of the most forcible objections against this mode of procedure is, that the surgeon may return into the cavity of the belly a portion of intestine which is in such a condition that, if returned, death will too surely follow,—either it may be gangrenous, or even ulceration may have occurred, and the intestine may have given way, and the contents have escaped. Under such circumstances death surely comes on rapidly. Such, indeed, was the state of things in the above-mentioned case; the bowel had ulcerated, and, as the sac was not opened, this was not known at the time. And here, again, is constituted a difficulty connected with this operation; for there is no actual possibility of knowing whether gangrene or ulceration of the intestine has already taken place. Where, indeed, there are well-marked symptoms of such condition, it can only be guessed at; and where there are hardly any symptoms to lead the surgeon to the belief that the gut is in an irreparable state, he will sometimes, on post-mortem examination, find it in a disorganized state.

In the instance just mentioned Mr. Partridge considered that the symptoms were not sufficiently severe to lead him to the supposition that ulceration of the intestine had taken place: and finding that the hernia could be easily returned without laying open the sac, he operated in this manner. The case, as we before observed, shows the extreme difficulty there is in estimating what the condition of the parts may be, whether fit to be returned or not, and so far is it an argument against Petit's operation; but on the other hand, an unprejudiced observer, looking at all the facts of the case, will see in it evidence in favour of this proceeding, for it has been noticed from the appearances after death that the patient must have died after any operation; and that the operation itself did not kill her, but the disease; it has been noticed too that the intestine was observed to be quite free of the sac, and that there was no disease in the latter. Had, then, this poor woman been operated upon soon after she was first taken ill, before the intestine had become so disorganised, it might have been returned in a healthy condition merely by dividing the stricture outside the sac; but unfortunately what so frequently destroys life in cases of hernia caused death here—delay, and its sad consequences.

In our present knowledge it would perhaps be safer to restrict the operation without opening the sac to those cases which have not been strangulated for more than a day or two; but unfortunately, in hospital practice at least, it is not often that we get sight of these patients so early.

Aneurism by Anastomosis.

Wm. Slade, aged 19, admitted Dec. 2nd,

1850, in consequence of bleeding having suddenly taken place from the foot, where is situated a large aneurism by anastomosis. He states, that soon after his birth a small red spot was noticed under the right heel; this continued to increase, and a beating of the vessels could be easily felt. The tumor produced no inconvenience until about two years ago, when an ulcer formed spontaneously opposite the external malleolus, and was succeeded by small ulcerations on the outer side of the leg. About eighteen months ago the tumor beneath the heel bled slightly, but the hæmorrhage was easily checked, and it did not recur until the 23rd of November last, when it began suddenly, and without any injury being previously done to the foot; the hæmorrhage was readily checked by pressure, and the patient was sent into the hospital.

Dec. 4th.—On removing the dressings, much coagulated blood was found; but the bleeding had entirely ceased: a tumor was occupying the posterior half of the sole of the right foot, extending as far as the external malleolus. It is of a soft elastic nature, and evidently consists of a series of vessels forming the aneurism by anastomosis; the whole of the swelling is of a reddish colour, doughy, and elastic; and pulsation can be distinctly felt in it. The corresponding leg all the way up to the knee is considerably larger than the other, and all the vessels appear to be dilated; the patient had been in one of the metropolitan hospitals some time ago, but it was not thought that matters were sufficiently serious to warrant any surgical interference. Mr. Fergusson had been called in to see him, in private, when the last-mentioned bleeding had taken place, and as he considered that is was now necessary to take some steps to attempt to cure the formidable disease under which he was suffering, he had him admitted into the hospital. It was determined to keep the patient perfectly quiet some time before anything was done, beyond attempting to heal the ulceration which had taken place over the tumor: for this purpose water dressing was applied.

13th.—The ulcer is granulating in a healthy manner, and strapping has been applied to it; no more bleeding has occurred. Mr. Fergusson made a more minute examination of the state of the limb. The dimensions of the two extremities are as follows: the circumference of the right leg, six inches below the patella, measures thirteen and a half inches, whilst the left is only ten and a half inches; from the heel, across the instep, the right measures fourteen and a half, whilst the left is only twelve and a half inches. A distinct bruit can be heard along the course of the vessels, on the affected side, from the foot upwards to the parts above the knee; pressure on the femoral artery at the groin causes the vessels to swell, and produces a considerable and distinct increase in size in the calf of the leg, and on measurement this increase amounts to half an inch. The anterior and posterior tibial arteries can be seen to beat distinctly. All the superficial veins are much enlarged, and arteries which are normally not perceptible can be distinctly felt and seen pulsating. Mr. Fergusson, on first consideration, thought that it would be a fit case for applying ligatures to the anterior and posterior tibial arteries, and then subsequently to attack the vascular tumor in the foot by needles or ligatures, if necessary; but the diseased condition of the vessels of the whole of the leg forbade this plan of treatment. Pressure on the femoral artery has also been taken under consideration; but the fact of pressure causing a great increase in size in the limb, as well as producing considerable pain in the foot, contraindicates the adoption of this method; and he has therefore determined to place a ligature upon the femoral artery. In other respects the patient is pretty healthy, although he does not appear to be very strong.

January 11th.—To-day, at 2 P.M., the boy was brought into the operating theatre, and placed under the influence of chloroform, and Mr. Fergusson proceeded to tie the superficial femoral artery in Scarpa's triangle. The operation was quickly and easily effected, and unattended with any peculiar circumstances. It was almost immediately followed by a sensible diminution in size, both of the tumor on the foot, and of the enlarged vessels on the leg. Pulsation ceased, and the tumor became loose and flabby. The temperature of the limb, in the evening, was higher than the other; but there was a sensation of cold and numbness in the foot.

12th.—Has been in a good deal of pain, and has had no sleep during the night. The foot feels cold and numbed, and he has experienced burning sensations from the knee down to the middle of the front of the leg: there is no pain in the wound.

14th.—Pain continues in the toes and foot, with alternating sensations of cold and heat in the leg: no pulsation in the tumor. The great toe and the next are discoloured, and there are curiously mottled patches of discolouration here and there over the subcutaneous surface of the tibia, and on dorsum of foot. Limb is well wrapped up in flannel.

16th.—Patches of discoloration have become more marked on leg and foot, and the toes have become evidently mortified. There is a great deal of pain in foot and leg: there has been a slight oozing of blood from the wound: no pulsation in the tumor. From this date it was evident that gangrene had commenced; it was distinct on the toes, and was approaching the leg, and extending upwards to the knee. Constitutional disturbance began to get severe; appetite gave way; not much sleep; and the boy suffered a great deal of pain in the foot and leg.

On the 26th, whilst straining at stool, he felt blood trickling down his thigh, and on looking found it freely oozing from the wound where the artery was tied. The house-surgeon, Mr. Luxton, was immediately sent for, and he stopped the bleeding at once by pressure: only a few ounces of blood were lost. After this, bleeding did not occur; it was not thought advisable to undo the dressings from the wound for some days, when, at the first dressing, the ligature came away from the artery.

29th.—The patient continued to suffer excruciating pain in the foot and leg, and by the first week in February all those parts which had put on the mottled appearance had become decidedly gangrenous. The health of the patient now began materially to suffer, and on the 6th there was some slight delirium; and it was found necessary to support him well with beef-tea, eggs, and brandy.

Feb. 11th.—This was his condition:—Toes black, as far as the metatarso-phalangeal joints; between this point and the tumor the sole of the foot is of a dark purple colour. Dorsum of foot of various colours, and covered by vesications, filled with air and fluid. That part of the outside of the leg which was formerly brown, has now become black. Gangrene has extended in front of the leg, as high up as the top of the patella; the calf of the leg is also implicated in the gangrenous destruction, but the external parts of the leg are healthy. The disease is quite limited to the lower leg, the utmost verge of the mortification being just over the patella. The constitutional disturbance is very severe. Countenance expressive of great anxiety, from the suffering constantly undergone. Pulse rapid and feeble; appetite bad.

Mr. Fergusson now considered it to be necessary to amputate through the thigh, and did not deem it proper to wait longer; and on this day the limb was removed by the flap operation, the incisions being made above the extremity of the gangrene. During the operation a large quantity of blood was lost, which was evidently chiefly venous, and the stump seemed one mass of vessels. A portion of a vein was dissected away, and it was found to be so dilated as to admit with ease Mr. Fergusson's little finger: it was found necessary to apply eight ligatures. From this time up to the present date (Feb. 26th) matters have gone on well; there have been no bad symptoms, and the health of the patient is coming round.

We have gone over the main features of this extremely interesting case, leaving out many of the minutiæ of it, which would render the report very long, and unnecessarily tedious: we shall, however, review the case as a whole, and call attention to those particulars which may prove to be interesting or instructive.

It is not very often that we meet with an instance of this kind. Aneurism by anastomosis is, however, by no means a rare affection. Several examples of a very interesting nature have been of late years under treatment at this hospital; but in all these cases the disease has been limited in extent, and confined to its particular locality. The curiosity in the case under notice consists in the fact of there not only being a distinct and large vascular tumor on the foot, but that there should be at the same time an abnormal condition of the whole of the vessels of the corresponding leg. This it was which not only gave especial interest to the case, but which rendered necessary a modification of, or rather an addition to, the treatment which is usually put in force in cases of aneurism by anastomosis. It has been noticed that, on first seeing the case at his own home, Mr. Fergusson considered that it would be a fit one for ligature of the anterior and posterior tibial arteries, and subsequent local treatment of the vascular mass; but at that time he had not discovered the existence of the disease in the vessels of the leg, as well as in those of the foot. When the real condition was ascertained, on the patient arriving at the hospital, it was seen that this measure would not be a judicious one; for, even supposing that ligature of these two vessels would suffice to lead to the obliteration of the tumor, it would be a hazardous practice to tie arteries which, in all probability, were in a diseased condition. The next question for consideration, then, was, what was to be done? as the disease not only involved the foot, but implicated the vessels, more or less, as far up as the knee. Was any measure of severity necessary? A serious disease here existed, and hæmorrhage had occurred from the tumor to such an extent that the life of the patient had been jeopardised; and, in all probability, the same thing would occur again when he returned to his occupation, which was one of a laborious nature. Amputation of the limb was thought of and suggested, but Mr. Fergusson was very loth to resort to this extreme measure. Considering that the malady was alone confined to the vessels, he deemed it more preferable to adopt a less severe plan at first, which might, if it failed, leave a way open for amputation. There was left, then, one of two alternatives—either the employment of pressure, or the ligature of the main vessel of the extremity away from the diseased parts. We all know how extremely efficacious compression of the main artery has been in curing aneurisms which are so situated as to be placed under favourable circumstances for a trial of this remedy. As it has often succeeded in totally dispersing an ordinary aneurism of a large vessel, it cannot but be expected that the same plan, if adopted, might have some effect at least in causing the obliteration of an aneurism by anastomosis, even if it did not produce an entire cure. We do not recollect to have seen this method adopted in such an instance, but there is little doubt that it might with propriety be used. It will be seen, by referring to the report, that a very careful examination of the limb, and of the effects of temporary pressure upon the diseased structures, was made by Mr. Fergusson, previous to any plan being decided on; and it was then found that when pressure was applied upon the femoral artery at the groin a great increase in size of the limb took place; and that when the pressure was taken off the limb subsided to its usual size. This change in the dimensions of the limb was so very evident, that it must be owing to a sudden accumulation of blood within veins which were very largely dilated; and it was pretty evident, from this fact, that the disease was consisting, to a great extent, of numerous veins increased in size. Moreover, it was noticed that pressure upon the femoral artery caused the patient considerable pain in the foot. These circumstances, and especially the first, were considered to be sufficient to contra-indicate the use of pressure; for the object of compression—in fact of any method of treatment—was to produce a diminution in the size of the diseased part, and not to increase it. Moreover, it being now proved that a considerable bulk of the disease was composed of veins, it was considered that continual pressure of the vessels at the groin would probably only aggravate the malady by preventing the return of blood from the parts; for at the same time that pressure is exerted upon the femoral artery, it is very difficult to prevent it from acting upon the contiguous vein as well. Under these circumstances, then, it was deemed proper to resort to ligature of the superficial femoral artery, as by that means the current of blood would be stopped through the artery only, and the veins would not be interfered with. It was expected that this measure alone would suffice to materially diminish the size and increase of the vascular tumor; and, even if this failed, there would still be left the ultimate and most severe remedy—namely, amputation of the thigh.

The effect of the ligature of the femoral artery upon the disease was what was expected. Pulsation ceased in the tumor; it became flaccid and reduced in size, and the whole limb became smaller. Unfortunately, very soon after the operation gangrene attacked the toes; and it was hoped that it might have been limited to them; but a very peculiar appearance of the integuments of the foot and leg had developed itself. At first it was hoped that it was only the result of the altered state of the circulation; but in a short time it became evident that mortification had involved all this portion which had been discoloured, and all hopes of saving the limb were abandoned, and it now became a mere question of time respecting the removal of the limb. The sufferings of the patient became so severe, and the constitutional agitation was so great, that it was not deemed advisable to wait for a decided separation of diseased from healthy parts, especially as the limits of the mortification were distinct: amputation was therefore undertaken at an earlier period than is usual in such a case. It is extremely unfortunate that mortification should have taken place to such an extent in this case; for, in all probability, the obstruction of the femoral artery would have had the effect of destroying the disease; and even if it had not entirely succeeded, it would have led the way to an easy cure by the local application of threads to the tumor itself in the foot, which, although by no means the greatest part of the disease, was nevertheless looked upon as the most important, most dangerous, and most necessary to be cured; for the immediate danger for which any operation was put in force resulted from hæmorrhage from the tumor, which had once or twice occurred, and which at any time might recur. The main reason why large aneurisms by anastomosis should be interfered with by the surgeon, is, that there is a more or less tendency to hæmorrhage of a very serious character; and the instance before us is a very good illustration of the danger which may result through a sudden and spontaneous giving way of some of the vessels composing the mass. Not very long ago, a woman who had long been suffering from varicose veins was awoke in the night by something trickling down her legs, and on examination she found that the fluid was blood. She was soon removed to the hospital, close by which she lived, but she died shortly afterwards from loss of blood, and it was discovered that a varicose vein had given way, and hence the fatal result. If, then, a varicose vein may be attended with such chances of hæmorrhage, it is likely that a series of enlarged arteries and veins composing an aneurism by anastomosis of considerable size would have a greater tendency to bleeding of an equally or more dangerous character. Ligature of the main vessel leading to the tumor has the effect of totally curing the disease if it consist entirely of arteries, as in the case where Mr. Travers tied the common carotid artery for aneurism by anastomosis in the orbit: but when the vascular mass is composed both of veins and arteries, and when the veins predominate, as was the case, perhaps, in the present instance, ligature of the main vessel will not suffice of itself to obliterate the disease, although it will help in a great measure to cure it; by diminishing the size of the part, and cutting off its supply of blood, it leads the way to a total cure by the application of threads or needles afterwards. In an instance which was under our observation some years ago, a large vascular tumor, composed both of arteries and veins, occupied nearly one side of the head: here the common carotid artery was tied with the effect of diminishing the size of impulse of the tumor to a considerable extent, but it did not entirely cure it. It was found necessary afterwards to apply threads to the mass, which, by the two combined plans, was thus after some time destroyed. We may add, that in reference to the dilated and aneurismal condition of the vessels up the entire leg, a dissection and preparation is being made of the part, and we hope to be able, in a future report, to give an account of it.

Correspondence.

PROFESSORS AND STUDENTS. IMPORTANCE OF SETTING AN EXAMPLE OF PROFESSIONAL COURTESY.

SIR,—Though an Englishman, I am a graduate of Edinburgh, and I look back at that city and its professors, Infirmary, and Medical Society, with an affectionate remembrance, and with a deep interest in their continued success. It is on these accounts that I cannot forbear expressing the pain I feel at the continued snarling of the Clinical Professor of Surgery. His very valuable surgical remarks in the Edinburgh Monthly Journal, are so mixed up with these snarls at other people, and other schools, and other books, and other treatment, further south, that the effect is as disagreeable in this latitude as if we were compelled to undergo the company of some discontented individual who had not yet learned that the art of making himself disagreeable was in the worst taste, and entirely tabooed. But it is not from my own discomfort that I allude to this, but from the effect on the pupils which the breeding of the professor has, to an extent of which he may be unaware: and if our students are to be gentlemen, our professors must not cease to be gentlemen themselves in their lecture-rooms. The grand objection to the French system of "concours" is that it elevates merely intellectual ability, and in consequence that some of the highest professors have been men of uncultivated manners: whereas as a rule the British medical professors are men of cultivation and refinement. Certainly this was in my time the case with all the University of Edinburgh professors with whom I came in contact, and that either of them should set an example to his class of bitterness is an exception I am sorry for, especially when I consider that his position and ability give this failing additional influence.

I have no doubt that the professor makes fewer mistakes himself than less experienced and less painstaking men; but I am also sure that in our profession no day passes which does not prove to him his own ignorance, and his own want of foresight. It will be extremely difficult for his pupils to imitate his sagacity and skill, but extremely easy to copy his snarling at others; and if young men (as young men are so apt to do, without clinical instruction from professors), begin their career by finding fault with the treatment of others, and neglecting to pay due attention to the feelings of their medical brethren, they will put themselves back in life, and learn, by a very painful process indeed—actual experience—that a kinder and more considerate conduct would have been a wiser one.

Your obedient servant,
M.D.

⁂ The opinions of M.D. are, we believe, in the matter alluded to, those of the great majority of English practitioners.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 6th March, 1851:—Richard Driver Kidd, Godalming, Surrey—William Dewsnap—Ebenezer Moone, London—John Carruthers, Dumfries.

Medical Intelligence.

THE ASSISTANT SURGEONS OF THE NAVY.

DR. F. J. BROWN, the indefatigable advocate of the rights of Assistant Surgeons of the Navy, has written the subjoined letter to a daily contemporary.

SIR,—A list of 12 ships on the Mediterranean station is now before me, *in only two of which are there reading cabins!* Let us turn to the Admiralty order, dated July 17, 1850, and see what is said on this subject:—"The cabin specified in their lordships' order of the 26th February, 1846, is to be strictly appropriated to the officers mentioned in that order; and their lordships' instructions on that head are to be fully carried out." This is as plain a case of disobedience of orders as any I know, or of which I have ever heard. It is, moreover, deliberate disobedience, for the order was repeated so late as last year, and the cabin was to be "strictly appropriated to the officers mentioned."

Though commanders in chief and captains be not careful to comply with the reiterated orders of the Admiralty, they will find that they are not irresponsible beings; they shall be judged by public opinion, and I trust by parliament.

After what has been stated respecting reading cabins, it will be scarcely necessary to exhibit the *wilful neglect* of the order providing cabins for assistant surgeons "when the accommodation and space on board will admit."

Nay, in a steam-sloop of 1124 tons, now in the West Indies, the *request* for a cabin was followed by an order from the commander to the assistant surgeon to relinquish the use of a cot in the steerage (which the first lieutenant had kindly afforded him), and "to sleep in a hammock," and, as if to increase the ignominy of the thing, "the hammock is to be stowed with those of the men."

Such commanders are incurable; they are tyrants—petty tyrants. I address myself to my own profession, and I earnestly beseech its members to unite, for the purpose of memorialising her Majesty on the subject.

There is only one remedy for the disease, and it is this:—to constitute medical men ward-room officers, with the possession of cabins and servants, from the very hour of their admission to the Royal navy.

I am, sir, your obedient servant,

FREDERICK JAMES BROWN, M.D.,
Formerly Assistant Surgeon R. N.

FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS—MATHEMATICAL QUESTIONS AT THE JUNIOR EXAMINATION.

1. Explain the reasons for the common process of multiplying integers, illustrating your explanation by an example.

2. From $\frac{5}{8}$ths of $\frac{3}{4}$ths of a crown subtract $\frac{3}{8}$ths of $\frac{5}{14}$ths of a guinea, and express the result as the decimal of £1.

3. Extract the square-root of 13 to 4 places of decimals.

4. If n be a positive integer, prove that $xn—yn$ will be divisible by $x—y$.

5. *A* was 12 years old when *B* was born, and in 4 years more *A's* age will be to *B's* as 3 to 2: required, the present ages of *A* and *B*.

6. Solve the following equations:—

(1.) $$\frac{3x+1}{x-1}-\frac{3x-1}{x+1}=\frac{2x+5}{2x2-2}$$

(2.) $x+2y=2x-y=9$.

7. If two triangles have two sides of the one respectively equal to two sides of the other, and the contained angles equal, prove that the triangles will be equal in every respect.

8. The square constructed on the hypothenuse of a right-angled triangle is equal to the sum of the squares constructed on the sides which contain the right angle.

9. If any point in the circumference of a circle be joined with the two extremities of any diameter, the joining lines will be perpendicular to each other.

10. The straight line which bisects the vertical angle of any triangle divides the base into two segments, which are to each other as the adjacent sides of the triangle.

11. Show how the true weight of a body may be determined by means of a balance of which the arms are unequal, the ratio of the lengths of the arms being unknown.

12. In the system of pulleys, in which one extremity of the string passing round each pulley is attached to a fixed point, find the relation between the power and weight when there is equilibrium, supposing the strings to be parallel, and neglecting the weights of the pulleys.

Prove that as much as is gained in power is lost in the space through which the power has to cut in order to move the weight through a given space.

13. Prove that in any system of rigidly connected heavy points there exists one and only one point, such that if it be rigidly connected with the system, and be supported, the system will rest in equilibrium in any position. What is this point called?

14. Explain what is meant by the pressure of a fluid referred to a unit of surface and what by the statement that the pressure is equal in all directions.

15. Show how to find the specific gravity of a solid by weighing the solid in air and in water, (1) neglecting, (2) taking account of the weight of the air displaced.

16. Explain the construction and action of the common pump, and show why it will not draw water from a well beyond a certain depth.

17. Enunciate the laws of refraction, and state what becomes of a ray of light incident internally on the surface of a dense medium at an angle exceeding that at which a ray incident externally in a direction almost parallel to the surface would be refracted.

18. Explain the formation of the image of an object by a convex lens, and point out the circumstances under which the image may be seen distinctly.

TESTIMONIAL TO DR. BROOKES, CHELTENHAM.

The members of the Cheltenham Medical Book Society have just presented their Honorary Secretary with a handsome silver Etruscan Claret Jug, bearing the following inscription:—

"Presented to William Philpot Brookes, Esq., M.D., by the Members of the Cheltenham Medical Book Society, as a token of respect and esteem for his valuable services as their Honorary Secretary. 1851."

OFFICERS AND COUNCILLORS OF THE MEDIACOCEY OF LONDON FOR 1851-2.

President: E. W. Murphy, M.D. *Vice-Presidents:* Francis Hird, Esq.; J. F. Clarke, Esq.; E. Lankester, M.D., F.R.S.; Forbes Winslow, M.D. *Treasurer:* Henry Hancock, Esq. *Secretaries in Ordinary:* C. H. F. Routh, M.D.; C. Cogswell, M.D. *Secretary for Foreign Correspondence:* T. Davidson, M.D. *Councillors:* E. Headland, Esq.; G. Pilcher, Esq.: W. C. Dendy, Esq.; J. Middleton, Esq.; S. Stedman, Esq.; S. W. J. Merriman, M.D.; W. Smiles, M.D.; F. Sibson, M.D., F.R.S.; J. R. Bennett, M.D.; H. H. Walton, Esq.; J. Gay, Esq.; T. Nunn, Esq.; J. B. Garrod, M.D.; R. Druitt, Esq.; J. S. Bushnan, M.D.; W. Coulson. Esq.; J. W. Woodfall, M.D.; A. P. art, M.D.; J. H. Bennett, M.D.; E. J. Tilt, M.D. *Orator:* E. Canton, Esq.

Fothergillian Gold Medallists: Dr. Rd. Payne Cotton, of 4, Bolton Street, Piccadilly, for the best essay on "Phthisis." Rd. Hodges, Esq., F.R.C.S., of Rochford, Essex, for the best essay on "Uterine Hæmorrhage."

Fothergillian Silver Medallists: Henry Hancock, Esq., 59, Harley Street, for special services rendered the Society during the season 1850-1.

The following are the subjects for the Fothergillian medals:—

In March, 1852. "On the mode in which therapeutic agents introduced into the stomach produce their peculiar effects in the Animal Economy."

For March, 1853—Two medals.

1st.—"On wounds and injuries of the abdomen and their treatment."

2d.—"On the pathology of convulsive action."

THE INFLUENZA IN PARIS.

It has been calculated that there are at present 40,000 persons confined in their apartments in Paris by the prevailing influenza, exclusive of those in the hospitals.

THE CHOLERA IN JAMAICA.

According to the latest intelligence the cholera has almost entirely left the island; the only parish in which it prevailed to any extent was Hanover, the Green Island district in particular. Notwithstanding the painful ordeal through which the inhabitants of the island have passed, there is great inattention as to the sanitary state of the country.

Dr. Beveridge, R.N., who proceeded to Jamaica on the 2nd January, by the Severn, for the purpose of rendering assistance in that island during the prevalence of cholera, has returned by the last packet. He reports that Kingston, Spanish Town, and Port Royal, are entirely free from the scourge, and that in all other districts it is on the decline. Westmoreland has still escaped, but he is fearful it will not long remain free from the cholera, notwithstanding the judicious sanitary precautions adopted.

None of the Windward Islands had been visited with the cholera. In Barbadoes there had been 15 cases of sporadic cholera, but that island is annually visited by occasional cases of this nature.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 7th inst.:—Messrs. E. E. Earle—J. W. Coombs—H. Bullock—T. Ellis—R. Hamilton—T. Allen—W. Peck—W. S. J. H. Munro—E. O'C. Foott—C. J. Grant—J. G. Morris—T. W. J. Marsh.

OBITUARY.

MR. WILMSHURST.

On the 1st inst., at his residence the North Gate, Warwick, æt. 70 years, John Wilmshurst, surgeon to the Warwick Militia, the County Prisons, and senior surgeon to the Warwick Dispensary.

The above gentleman was for upwards of twenty years in the commission of the peace for the borough of Warwick.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Tratado de Medicina Legal o Exposicion Razonada de las Cuestiones Juridico Médicas. Por el Dr. D. Ramon Ferrer y Garces. Barcelona.

Reduction of Strangulated Hernia in Mass. By George C. Blackman, M.D. &c. New York.

Pharmacopœia ad usum Nosocomii Phthisicorum et Pectoris Morbis Ægrotantium accommodata. Editio Secunda. Londini, 1851.

Elements of Materia Medica, &c. By William Frazer, M.D.

Cases in Midwifery, by the late John Green Crosse, M.D. &c. Edited by Edward Copeman, M.D. &c.

Hooper's Physician's Vade-mecum. New Edition, by Dr. Guy.

Annual Report on the Progress of Chemistry. By Justus Liebig, M.D. and H. Kopp. Vol. 3, Part 1.

Rudiments of Chemistry. By D. B. Reid. Fourth Edition.

The Philosophy of Living. By Herbert Mayo, M.D. Third Edition.

A Letter to Lord Campbell on the Clause respecting Chloroform in the Prevention of Offences' Bill. By John Snow, M.D.

Religion and Science. Their Independence and Mutual Relations.

Ninth Report of the Birmingham and Midland Counties' Pathological Society.

London Journal of Medicine. March 1851.

Pharmaceutical Journal. March 1851.

Edinburgh Monthly Journal of Medical Science. March 1851.

The Boston (U.S.) Medical and Surgical Journal. Monthly Series, Feb. 1851.

British American Medical and Physical Journal. February 1851.

Journal de Chimie Médicale. Mars 1851.

Comptes Rendus. Nos. 7 et 8—17 et 25 Février 1851.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 2 to 5 — 11 Januar to 1 Februar.

Henke's Zeitschrift für die Staatsarzneikunde. Erstes Heft, 1851.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, March 8.

BIRTHS.		DEATHS.	
Males....	795	Males....	582
Females..	785	Females..	665
	1580		1247

CAUSES OF DEATH.

ALL CAUSES	1247
SPECIFIED CAUSES	1242
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	281
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	58
2. Brain, Spinal Marrow, Nerves, and Senses	125
4. Heart and Bloodvessels.........	70
5. Lungs and organs of Respiration	321
6. Stomach, Liver, &c.	72
7. Diseases of the Kidneys, &c.	7
8. Childbirth, Diseases of Uterus, &c.	3
9. Rheumatism, Diseases of Bones, Joints, &c.	8
10. Skin............................	1
11. Premature Birth	0
12. Old Age	45
13. Sudden Deaths....................	11
14. Violence, Privation, Cold, &c....	8

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	26	Convulsions.......	60
Measles............	30	Bronchitis	160
Scarlatina	20	Pneumonia	96
Hooping-cough	70	Phthisis	154
Diarrhœa..........	13	Lungs	11
Cholera............	2	Teething	21
Typhus............	36	Stomach	6
Dropsy	19	Liver..............	10
Hydrocephalus	31		
Apoplexy	20	Childbirth	9
Paralysis	15	Uterus	1

REMARKS.—The total number of deaths was 168 *above* the average mortality of the 10th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·89

" " " Thermometer[a] ...... 39·4

Self-registering do.[b] .... Max. 0·0 Min. 28°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, ·10.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 4° *below* the mean of the month.

NOTICES TO CORRESPONDENTS

Dr. Black's letter has been received. His request shall be attended to.

We are compelled for want of space to postpone the commencement of Dr. Ormerod's Lectures at the College of Physicians until next week.

The communications of Mr. Richardson and Mr. Paterson are in type, and will be inserted in the following number.

RECEIVED.—Dr. Brookes—Dr. Cox—Mr. Whitehurst — Mr. Pollock — A Country Surgeon—D. R.—A Subscriber.

Corrigendum.—In Mr. Richardson's paper, in our No. for Feb. 28, page 363, col. 1, line 24, for *heart* read *hand*.

Lectures

CLINICAL LECTURE ON THE PULSE.

(Delivered at King's College Hospital.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XXI.*

The pulse in various diseases—in heart disease—the pulse of aortic and of mitral regurgitation—thrilling pulse—pulse of hypertrophy—of pericarditis—indications afforded by the pulse for diagnosis, prognosis, and treatment of heart disease—Pulse of Fever—in cerebral affections—in phthisis.

Gentlemen,—I was unable in my last lecture to complete my observations on the pulse, and, as you will remember, found it necessary to limit myself to some account of its rhythm and its quality. I must now proceed to make some remarks on the state of the pulse in various diseases, and the practical indications which it affords.

And here let me again impress upon you the importance of studying the different characters of the pulse as regards its quality. It is, as I have already stated to you, upon the *tone* of the arterial walls that the various qualities of fulness, hardness, &c. of the pulse mainly depends. And this state of tone is to the practitioner a most valuable index of the degree of vital power which his patient possesses, because it varies in the most striking manner with the *plus* and *minus* of the strength and vital resistance of the patient; so that a well-educated touch—and the touch can only be well-educated by experience, by frequent touching—I say a well-educated touch will in many cases enable the practitioner to prognosticate well or ill of his patient by feeling the pulse only. How true this is in cases of fever, all men of much experience in that disease will bear me out in affirming.

The pulse in heart disease.—I shall first direct your attention to those varieties of pulse which are characteristic of heart disease.

The most prominent and well-marked form of pulse in heart disease is one which I described to you in my last lecture as the "*locomotive*" pulse: it consists essentially of a sensible, as well as visible, throbbing pulsation of all the arteries throughout the body, seen, of course, most conspicuously where the arteries are most superficial, and, also, where they are most curved. The increased conspicuousness of the movement at the flexures of the arteries depends upon its being really greater there, upon its being not only a change of calibre, as in situations where the artery is straight, but a change in the position and relations of the whole artery: this movement of the whole artery I conceive to be thus produced. The natural inclination of the moving fluid is, of course, like all moving matter, to continue its motion in a straight line, but in a serpentine artery the course of the blood must also be serpentine; and how is this change of direction to be imparted to it? Manifestly by the walls of the artery, and especially by that portion of the walls which constitutes the convex border of the curvature; on this side is thrown the whole of the stress of the impulse, and the effect, therefore, is to throw the artery, or to elongate it, in that direction: in a serpentine artery the convexity of the curvatures is alternately on opposite sides, and, therefore, the impulse of the blood, and the movement it gives rise to, is thrown alternately, on opposite sides; hence, not only the greater movement, but the increased length of curved arteries, and the vermicular character of their motion, is accounted for.

But to return. When you place your finger on a locomotive pulse, you may perceive, by attentive examination, that the peculiar state of pulse is dependent, not only on a remarkable fulness of the artery, but also on a remarkable collapse; that the systolic distension is suddenly followed by a considerable diastolic contraction. The excessive fulness of the artery is, however, merely apparent, and not real: it appears excessive by contrast with the unusual degree and suddenness of the collapse which preceded it, and which follows it; the blood is impelled into an artery, not at all filled to tension, and the succeeding collapse takes place suddenly, instead of by a more gradual subsidence. Now auscultation and anatomy teach us that this character of the pulse is due to regurgitation. When the ventricular contraction which injects blood into the arterial system has ceased, the stress on the arterial walls is at once relieved by the reflux or regurgitation of a portion of the blood into the ventricle; and, as this regurgitation is not gradual, but instantaneous, the collapse is equally so, which is so immediately followed by a fresh injection of blood, expanding the artery and giving rise

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* *Erratum.*—The reader is requested to correct an error in the note at the commencement of Lecture XIX., the first on the Pulse. For "Winter Session, 1850," read "Summer Session, 1850."

XLVII.—1216. *March* 21, 1851.

to the jerking character that the pulse possesses.

Let us suppose that three ounces of blood are thrown out of the ventricle at each systole, and that immediately afterwards one of these three ounces regurgitates through the patent aortic valves. Imagine what a disturbance such a state of things must necessarily occasion in the circulation through the heart, and what a deviation it must be from the natural condition of an artery, filled to tension, firmly supported behind, and gradually relieved in front by the onward capillary movement. This state of pulse, when well developed, is always indicative of regurgitation through the aortic valves: I know of no condition of pulse which exactly imitates it; that which comes nearest to it is what is seen in some cases of low disease, as typhus, or rheumatic fever of a low kind, as I mentioned to you in my last lecture, or an atonic state of the arterial system, with dilatation of the large trunks, and a yielding condition of the aortic valves. In this case the heart propels the blood into an artery with little tone; the result is, that the artery becomes fully and suddenly disturbed by the impetus; there is, therefore, great enlargement, and, consequently, great collapse, the collapse being perhaps favoured by a yielding condition of the valves: this is the only imitation of it that I know. Now, you will always be able to ascertain the true cause of this locomotive condition of the pulse, by examining the heart itself: if it is dependent on a weak and yielding state of the arterial walls, *you will hear the natural second sound, but feeble*; if, on the other hand, it is dependent on valvular lesion, you will hear, instead of the normal second sound, a bellows sound, generated by the regurgitation of the blood through the patulous aortic valves, and called, from its being synchronous with the diastole, a "diastolic bellows sound."

You have at the present time a good opportunity of making yourselves acquainted with this form of bellows-sound, as well as with the locomotive pulse accompanying it, in the case of John Loveland, a patient in the Sutherland Ward, to whose case I have before referred. Let me here narrate to you some of the characteristics of such a state of disease, with the history and phases of which it is highly important you should be familiar. The patient is twenty-four years old, and seems to have been exposed to much hard walking, as well as hard work. He appears to have suffered from some acute affection about three months previous to his admission, but what the exact nature of that affection was does not clearly appear: it seems partly to have partaken of the character of pleurisy, and partly of pericarditis, perhaps of both. From this, however, he in a measure recovered, and, when in a state of convalescence, walked seven hundred and twenty miles, at the rate of twelve or fifteen miles a day. The fact was, he belonged to a club which pays its members, when out of work, a shilling a day, and a penny a mile for every mile they walk in search of work. It was on this search that he tramped from town to town when he ought to have been in his bed; and to this, in a great measure, is to be attributed his present condition. Under this constant exercise his cardiac symptoms increased very much, and he was admitted into the hospital the latter end of last month. His symptoms were then, and still are, dyspnœa, constant, but exacerbated by anything that increases the rapidity of his circulation; cough, of a peculiar, spasmodic, and dry character, not terminated by expectoration, but ending in retching, and sometimes in vomiting. There is nothing elicited by the physical examination of the lungs to explain this cough and dyspnœa; but, on examining the heart, the area of dulness marking the portion of it in contact with the thoracic parietes is found to be greatly extended. Those of you who are now listening to heart-sounds for the first time, I advise to listen to the heart of a neighbouring patient, with the heart healthy: you will then hear what the natural sounds are, and will be able to appreciate the aberrations from them; you will hear the prolonged first sound, and the short click of the second. Then turn to Loveland; and, in place of this clicking second sound, you will hear a soft blowing murmur—a bruit de soufflet, or bellows-sound. The first sound, too, is not natural, but partakes of the same character; and, if you transfer the stethoscope from the base to the apex of the heart, you will hear this bellows-murmur as distinct as the other: you will have a regular see-saw—what is specifically called a *double bellows-sound*. The murmur that *supplants* the second sound has its seat at the aortic volves; that that *accompanies* the first sound is seated at the mitral valve; and both are dependent on regurgitation at these respective situations. Judge, then, what must be the embarrassment that results from the double regurgitation—this two-fold counter-current through orifices that ought to be closed.

In the present case, the existence of mitral regurgitation renders the locomotive character of the pulse less marked than usual; for all the blood in the ventricle is not impelled into the artery, but a part of it passes back into the auricle: there is less distension of the artery and, consequently, its collapse less marked. A locomotive pulse, such as you have in Loveland, is as bad a sign as a patient with heart disease can have: the form of derangement of which it is indicative is most dangerous, because it is a derangement that more than any other interferes with the proper circulation through the heart. Hence it is that in cases of this kind we meet with so much dyspnœa. Dropsy has already begun to appear: the right side of his heart is becoming dilated, and it will get so more and more; and you will find that, in eight or ten days, if the patient should live so long, his dropsy will be considerably increased, and his other symptoms will have acquired greater prominence.

A second variety of pulse which you are likely to meet with in heart-disease is a *small weak* pulse, which accompanies mitral disease, whether regurgitant or obstructive. The effect of either condition of the mitral orifice—whether it be the patulous condition, allowing regurgitation, or a contracted state, obstructing the flow of blood into the ventricle—is necessarily to diminish the quantity of blood to be expelled by the ventricle. The arterial system is, therefore, imperfectly supplied with blood, and consequently not distended; so that a full pulse cannot be formed. When mitral disease of either kind co-exists with a weak state of heart, then the character of weakness and smallness of pulse will be enhanced in proportion to the degree of mitral disease and of debility of heart. It is this character of pulse, and this state of valvular disease, that we often find accompanied by a weak and sometimes a dilated ventricle, intermission of pulse, and, still more frequently, a great irregularity in the rhythm of the pulse; two or three beats succeeding each other at a rapid rate, then a few slow beats, then rapid ones again, and so on. You may likewise have this form of pulse in cases of obstructed aortic orifice, accompanied by a weak heart, in which the obstruction is so great as to permit only a small stream to emerge from the heart; and you may have it in cases of simple weakness of heart.

The case of James Whitburn, (vol. xxvi.) in Fisk Ward, will afford you a good example of the small weak pulse. In this case there was no valvular mischief; but the heart was weakened and depressed by pericarditis.

A third form of pulse which accompanies heart disease, while it may be more or less full, is especially characterised by a *thrill* which accompanies the impulse, imparting to the finger a peculiar vibrating sensation, as if the blood were rushing past certain obstacles with considerable rapidity and force. This is indicative of obstructive disease situated at the mouth of the aorta, or in its first portion. A warty growth from the valves projecting into the mouth of the aorta may give rise to this form of pulse by obstructing and dividing the stream, and creating secondary currents, which are the immediate cause of the thrill. In such cases you always have an aortic systolic bellows-murmur of a rough kind—the *frémissement cataire* of the French—which is audible along the large vessels of the neck, and frequently in all the larger arteries; and sometimes, and not unfrequently, this murmur will have a peculiar musical character, dependent on similar vibrations to those which cause the thrill.

We also meet with a *throbbing* and *full* pulse, which strikes the finger with considerable force, in cases of hypertrophy of the heart, which are not complicated with valvular derangement. The bounding character of the pulse resembles the action of the heart itself. There is another point relative to the pulse in hypertrophy of the heart, which has been noticed by Dr. Graves, and is worthy of your attention: namely, that the *frequency* of the pulse is not altered by position. He states that, in six cases of hypertrophy with dilatation of the heart, no difference was produced in the frequency of the pulse by change of posture. I suspect this must have been due to much the same cause as the same phenomenon in cases of weak heart, to which I alluded in my last lecture: for the heart with hypertrophy and dilatation, although acting strongly and with considerable because extended impulse, is yet, no doubt, weak in relation to what it has to do—*i. e.*, to the obstacles which it has to overcome.

I have already told you, in my last lecture, that an *intermittent* pulse is not in general indicative of any particular disease of the heart—that it is most frequently the result of merely functional disturbance: but, in cases where you have any reason to apprehend an inflammatory state of heart, such as rheumatic fever, an intermitting supervening upon a previously regular state of the pulse is a most significant symptom: it indicates almost with certainty the first accession of pericarditis or of endocarditis. After a very short time, however—sometimes only a few hours—the pulse will become regular, even in the most confirmed endocardial or pericardial inflammations. Under these circumstances, you may have a pulse more or less full, but not in general strong. Sometimes, however, if the endocarditis cause imperfection of the mitral valve, as it very often does, the pulse may assume the small and weak character which it is apt to exhibit in mitral regurgitant disease.*

What practical conclusions are to be drawn from the pulse, with regard to the diagnosis, prognosis, and treatment of heart disease?

1st. As to *diagnosis*. I need hardly say that you must not trust to the pulse alone in forming your diagnosis; but you should always consult it as indicative and confirmatory of other and more certain evidence. We have seen how important is the indication afforded by the locomotive pulse and the thrilling pulse, and even by the small feeble and irregular pulse. I have many times pointed out to you that, in heart disease, it is better you should try to make your diagnosis from general symptoms, before you resort, as a last appeal, to the evidence of physical signs. Observe the general aspect of your patient, learn his previous history, and the history of his disease; examine his pulse, its character, the influence of position or exertion upon it; his respiration, the way in which it is affected by similar circumstances; the characters of the cough, dyspnœa, or expectoration, if existing; the existence or non-existence of dropsy, its amount, locality, and where it first commenced; the state of the secretions and symptoms generally; and, finally, the physical signs. Now the advantage of this method of proceeding, in opposition to the other plan of appealing at once to the more certain evidence of the physical signs, is this:—you learn all the symptoms your patient possesses, you group and weigh them, you estimate their collective and individual value, and you determine with more or less exactness their import and indications: then, with your stethoscope, you determine the particular physical lesion that all these symptoms result from. Whereas, if you first examine the physical signs, you know at once that your patient has so-and-so; you feel no doubt about it, and your mind is apt to be satisfied; and with this certain knowledge you will be very likely to neglect and overlook all the various derangements of the functions that result from it: you will pass at once from diagnosis to treatment, you will fail to get a thorough knowledge of the natural history of the disease, you will fail to ascertain the full value of the organic lesion, and you will fail to employ a treatment often the most rational, and, in many cases, the only one of any avail—namely, the treatment of symptoms. We are all apt to try to arrive at our knowledge by the shortest cut; but such knowledge is seldom so lasting and so beneficial as that which is attained by a longer and more laborious method: it is "the pursuit of knowledge under difficulties" which generally issues in the most important acquirements. In the present case, I certainly prefer the old round-about way of going to work; not because it is old and round-about, or because I undervalue the more immediate means that modern brilliant discoveries have put in our hands, but because, in its circuitous route, a great deal of important information must be picked up which we might otherwise fail to secure.

2dly. What *prognosis* can we arrive at in heart disease from the character of the pulse? Our view of the issue of the case will be much more influenced by the *number* than by the *quality* of the pulse, for the quality of the pulse is but of little value in respect to prognosis except as it influences the prognosis through the diagnosis, *i. e.*, as it shows the existence of some condition which is more or less fatal or dangerous. A very rapid pulse, however, a pulse that refuses to come down, is a very bad omen: on the contrary, a moderate pulse of about 80 or 90, or one that if high is easily quieted, affords ground for a much more favourable prognosis. The young man to whose case I have already referred has had a pulse of 100 and upwards for several days past, and from that alone I should augur badly of his case; however, a locomotive pulse is of itself quite a sufficiently bad sign without any complication of rapidity. But the locomotive pulse, as indicative of regurgitant aortic disease, is of much more unfavourable omen than any other pulse, whose distinctive features are determined by organic lesion of the heart.

3dly. With what suggestions as to the *treatment* of heart disease does the pulse furnish us?

With regard to depletion, the indications of the pulse are generally negative,—most of them show a condition of tone and vital power that will not stand the abstraction of blood; they show an asthenic rather than a sthenic condition, a state of the circulation below par, that depletion would but increase. A locomotive pulse is not one that will bear depletion: in the full and compressible pulse we have no indications for bleeding; in the small pulse of mitral regurgitation it is equally contraindicated; only in the strong, full pulse of hypertrophy can general bleeding be borne with advantage: then the loss of a small quantity may often be productive of great advantage. But under any of these forms of pulse a moderate topical bleeding will often be of great advantage, particularly with the view of relieving local congestions resulting from the obstruction of the circulation through the heart.

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* I have great pleasure in referring to some excellent remarks on the pulse in heart disease, in the valuable series of Lectures on Cardiac Diseases, by my friend, Dr. Bellingham, lately published in the MEDICAL GAZETTE.

Now, what means may be best adopted to keep down the frequency of the pulse? We may employ either *direct* means which operate at once on the heart, or *indirect* and general means.

Of the direct means the administration of *digitalis*, or of *opium*, is the most important. You may give digitalis as a diuretic, or with a view to obtain its specific action in reducing the frequency of the heart's action. Given with this latter view it must be administered with due regard to a correct diagnosis, for while it is a very valuable remedy in one case it is a dangerous one in another. I would lay it down as a rule, that in all cases where there is regurgitative valvular disease, but especially aortic, digitalis given in doses which will depress the heart's action is a dangerous medicine; it weakens the heart, and thereby increases the embarrassment under which it already labours; it was for this reason I would not give digitalis in the case of Loveland. In his case, the stream of blood flowing into the auricle meets the blood regurgitating from the ventricle, and the blood flowing into the ventricle has to encounter an obstacle from blood regurgitating into it through the aortic orifice. It will not do to depress a heart labouring under such a derangement as this; therefore the only way in which you can quiet the heart's action in such a case as this is to employ some other medicine, which operates upon the heart through its tranquillising influence upon the nervous system, and so quiets the heart without weakening it. Now, opium is such a medicine, and therefore it is more generally applicable to heart affections than digitalis. The diuretic properties of digitalis may be often called into play in cases of cardiac disease; and for that purpose you may often combine it with a stimulant, as ammonia, or with some preparation of iron, so as to counteract the depressing effects. But the best combination, for a diuretic purpose, is with blue pill and squill, after a formula attributed to the late Dr. Baillie. I have seen, under the use of this combination, considerable dropsy disappear, and the heart become disembarrassed in its action in the most remarkable manner. And it would be impossible to say that the beneficial influence was due to one of the drugs more than to another: it is the combination of the three drugs which many times acts so advantageously.

But then there are certain other *indirect* means of acting on the heart, as purgatives, which diminish the quantity of the blood without impoverishing it; or steel, which improves the condition of the blood already poor; rest, the recumbent position, a nutritious and moderate diet, mental quiet. It is generally from the efficacy of some of these remedies, especially the three or four last, that heart cases often experience a marked alleviation of all their symptoms on their first entering the hospital.

I now come to consider the pulse in *fever*.

The pulse in fever generally varies from 100 to 120, not unfrequently from 90 to 100, and in some few cases it is even below that, whilst on the other hand it may be counted as high as 140 or 150. But it is the quality of the pulse which, in fever, should first arrest the attention of the practitioner; it is that which affords the most important guidance. It always partakes, more or less, of an asthenic character, and we must look to the pulse of fever for the greatest degrees of fulness, softness, and compressibility. Intermission is rare. But a vacillation of the pulse is not uncommon; an irregularity in the strength of the beats, one weak, the next less so, and also an indistinctness of the beats, are often felt in fever. Sometimes one meets with what has been called a *dicrotous* pulse, the character of which is, that it seems to have two pulsations to one beat, of the heart (*bisferiens*), a strong one corresponding to the heart's pulsation, and then a weak one immediately succeeding. This pulse is important in fever on account of its indications; it shows that the patient is in a low state, and that the pulse is vacillating. Under such circumstances you need not be afraid to throw in stimulants with an unsparing hand; and if this character of pulse should persist for any length of time, your pronogsis must be unfavourable.

Dr. Graves lays it down that a dicrotous pulse which is also hard is a very unfavourable sign. I confess it has not fallen within the scope of my experience to meet with these combinations of hardness with a dicrotous state of pulse.

The physiology of the dicrotous pulse has not, as far as I know, been satisfactorily explained. I ought to have referred to it before as affording an apparent exception to the law which I stated in a former lecture, that the pulse at the wrist never beats more frequently than the heart. The second beat in this form of pulse may be looked upon as a supplement to the first. But whether this arises from some peculiarity in the heart's systole, or from some condition of the arterial wall, by which the wave impelled into the artery is subdivided into two, or a reflex wave is generated, I am unable to say. Volkmann, in his recent very elaborate work on the physics of the circulation (Die Hæmodynamik), seems to attribute it to the laxity of the arterial wall, a view which accords with practical observations.

A dicrotous pulse now and then occurs in heart disease, when both the heart and arterial system are much enfeebled.

A very quick pulse, 120 for example, under all kinds of treatment, and especially under the use of stimulants, is one of the most unfavourable symptoms that a case of fever can present; on the other hand, a pulse that under the use of stimulants gradually and regularly falls from 120 to 110, from 110 to 100, and so on, gives you one of the most hopeful signs. It is not the highness of a pulse, but its being *obstinately* high, and especially its intractability under the exhibition of stimulants, that we must look upon with the greatest suspicion. In the same way unusual slowness of pulse, as where it falls to 50, is a bad omen; it shows that the heart is labouring under the depressing influence of the specific poison of the fever. Very often the free administration of stimulants will raise this pulse to the proper standard at once, the same treatment raising this pulse that diminishes the too rapid one.

What I have said of the indications of the pulse in the ordinary continued fever (typhus or typhoid) applies with equal force to other febrile diseases, the exanthemata or rheumatic fever. In all these cases an obstinately rapid state of pulse is an omen of the most unfavourable kind.

In cerebral affections the state of the pulse demands your careful attention, both for diagnosis and prognosis. In apoplectic, and comatose, and also epileptic cases, a sluggish state of pulse ought to excite our alarm as to the existence of some mechanical compression of the brain, by water in the ventricles, tumor, or sanguineous effusion, &c., and the persistence or increase of that sluggishness would of course be a most unfavourable sign. In delirium, however, of whatever form, you will derive more aid in prognosis from the pulse, than in any other form of cerebral affection. In these cases the rule certainly is that a pulse below or not exceeding 100 augurs well, but if it be 110 or upwards, and continue at that rate, then we must hesitate in expressing a favourable prognosis.

Of the indications afforded by the pulse in the various chronic maladies, there is nothing sufficiently important to call for any special remark. But with respect to the pulse in phthisis, I would make this observation, that you may gather from its rate of frequency a tolerably certain indication as to the probable duration of your patient's life. A phthisical patient, with an habitually rapid pulse, is not long for this world; but when the pulse keeps down—below 100, and more especially below 90—we may be sure that disease is not making any extensive or quick progress.

Original Communications.

ON THE
DIFFERENT WAYS IN WHICH DEATH OCCURS.

By Benjamin W. Richardson,

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[Continued from page 365.]

Syncope from Simple Derangement of Circulating Machinery.

In my last paper I spoke of two forms of syncope from mechanical derangement; namely, one depending on diversion of the blood from its natural course, and another on obstruction of the blood in some part of its circuit.

Of the first of these forms I now proceed to treat. Syncope from diversion of blood may be produced in various ways. It may follow from the vital current finding an escape from its channels; or the current may not thus be lost, but simply diverted in an undue proportion from one part of the circulating system to another. In either case one condition invariably obtains,—viz. the heart is left more or less void of blood, and fails in its action from this cause.

When the current of blood is actually lost from the circulating system, the speediness with which syncope occurs will vary according to the size of the vessel from which the fluid escapes, and its position with reference to the heart. If the vessel is below the heart, the syncope, *cæteris paribus*, will be more rapid and dangerous than when the vessel is above the central organ; and the larger the vessel the greater the danger. In division of the larger arteries and veins near the heart, that organ, as a general rule, is emptied almost at a stroke, which result is followed, of course, by instantaneous syncopal death.

To this rule, nevertheless, an exception now and then occurs; for cases have been known of division of large arterial trunks in the immediate neighbourhood of the heart, where muscular power and sensibility have been retained for many minutes after the accident.

My kind and talented friend, Mr

Edward Dudley Hudson, of Narboro', near Leicester, has forwarded to me the particulars of a singular case of this kind, which occurred in his practice some years ago. A man named Bilson, of the village of Broughton, murdered his wife by cutting her throat. The transaction occurred in a back kitchen. A struggle first arose, in which the woman was thrown down, with her face to the ground. The man then stood over her, and drawing her head forcibly back, inflicted two or more cuts across her throat with a razor. Having done this he left her, and the woman then rose (unassisted) and walked along a passage three yards in length, and across a room sixteen feet wide, out of which she escaped, by getting through a small window, into the street, along which she ran for twenty yards, when some one came to her assistance, and led her into another house: here she was placed in a chair; but seeming, after the lapse of a minute or two, to be just dying, she was laid on the floor, where she continued to live for a short time longer, recognising a relative who came in by raising to him her right hand. She then expired.

Mr. Hudson arrived about ten minutes after her death, and on examining her throat found it most extensively incised. The wound commenced just below the left angle of the lower jaw, and curved downwards to a point immediately below the thyroid cartilage, and from this ran up on the right side, and much more deeply to the temple, where it ended in front of the ear. The trachea was completely divided, its lower part being separated from the upper by a space of three inches. The œsophagus was also divided down to the vertebral column; but a small shred on the left side retained a slight union. All the branches of the carotid running in the direction of the incisions were divided, and on the right the carotid vessel itself was cut through opposite to the thyroid cartilage. Mr. Hudson computes that the woman must have lived fully twelve minutes after receiving the wound; and it is quite evident, from the particulars given, that she could not have walked and run less than twenty-five or thirty yards, in addition to getting through the small window. The quantity of blood lost was enormous, and the appearance of the wound such, that, but for the evidence of many witnesses, it could scarcely have been credited that life could have continued for the briefest possible space after the infliction of the wound. The man was tried and executed for the murder, at Leicester.

Some cases of a similar kind are narrated in Dr. Taylor's learned and valuable work on Medical Jurisprudence, upon one of which I am tempted, by the great importance of the subject, to offer a few comments. The particulars of the case are the following:—

A man cut the throat of a woman, in a hovel, so deeply as to divide the right common carotid artery; and then left her. The body was found twenty-three yards from the hovel,—with evidence to show that the woman had progressed that distance herself, after the infliction of the wound. It appeared, from the prisoner's confession, and other circumstances, that she was lying on the ground at the time her throat was cut, and that the prisoner left her for dead; that, after his leaving, she herself rose, walked the twenty-three yards already named, climbing a gate in her way, and at this point fell down and died.

It was a matter of great difficulty at the trial, to account for the power here shown after so severe an injury. Taking the whole of the circumstances into consideration, I am myself inclined to believe that the event might have transpired somewhat in this manner. It was observed that the woman must have stood erect, as there were marks of blood on the wood-work that led to the gate, and as blood had also escaped down to her abdomen.

Now it is by no means impossible that, after the murderer had left the woman, she rose, and seeking assistance from the wood-work, reached, and most probably climbed the gate, and then fell, in a state of syncope, to the ground; that during this syncopal state the bleeding from the divided vessel was arrested, and the vessel itself closed by a clot; that at the same time, the heart regaining power by receiving blood from the veins below it, in virtue of the recumbent posture, the woman recovered again so far as to be able to rise and proceed to the place where she was found,—at which point the bleeding vessel again gave way, and pouring forth a fresh current of blood, produced immediate death. This view of the case is also borne out by the fact, that there was no blood track between the gate and the place where the body lay dead, —a circumstance vaguely accounted for by the supposition that the sufferer "had closed the wound with her cap, at the same time, perhaps, assisting the closure by holding down her head."

Both these cases are highly instructive in showing the great difference that exists between wounds of vessels above and below the heart, as to their immediate consequences. In either of the above cases, had the femoral or external iliac arteries been the seat of the injury, in lieu of the carotids, I have no hesitation in expressing a belief that no movements, such as those just described, could have occurred by any possibility, although both vessels are further from the central organ than are the carotids, and destined to transmit blood to far less important parts; and I presume also to think that the medical jurist, in deciding as to whether the subject of a wound, involving an important vessel, has moved *per se*, from the evident place of infliction, to a distance, or has been moved by another, will be assisted in his conclusion by bearing this reasoning in his remembrance. Dr. Taylor gives an account of one or two other cases of divided carotids; but for these I cannot do better than refer the reader to the book itself, where, in addition to the history of the two cases, he will find many judicious reflections by the narrator.*

As the heart is approached, wounds or ruptures of its vessels lead to syncope still more rapidly, as may readily be supposed; though it is a well ascertained fact that the heart itself may sustain a severe wound or an extensive rupture, and yet death not occur for some considerable time. This result has been accounted for on the supposition that the muscular fibres of the heart, from running in different directions, may sometimes so act that one set may tend to retain the blood, while another would let it escape. For my own part, I am inclined to think that the position of the wound, and the general contraction of the central organ, have most to do with the matter.

It may be inferred, with great reason, that the time at which the heart would pour out most blood from a wound in one of its cavities would be when the cavity is expanding and receiving a fresh supply; while, on the other hand, but little would escape during contraction, because the very act of contraction would bring together the edges of the divided part. Granting this, let us suppose that the heart has been wounded in some part—say the right ventricle, which, by the way, is the most common sufferer—and let us examine the differences that are likely to arise from wounds in different points of it. The heart, it will be borne in mind, is placed with its apex pointing somewhat horizontally outwards, and hence, as will readily be seen, the blood that glides into the ventricle from the auricle naturally gravitates, as the cavity expands, to its posterior, inferior, and most depending part, through which, if an opening existed, the blood would at once and altogether escape. Very different, however, is it with reference to the upper anterior wall of the ventricle. To it, no blood reaches, during expansion, until the cavity is nearly filled, and about to contract; so that, if a wound actually existed at this part, the blood would not have time to escape in any large quantity before the lips of the division would be closed with the contraction of the organ. Now it so happens that, in injuries of the right ventricle, the part last spoken of is that which is most commonly implicated; and hence we may account for the fact, that wounds and ruptures of this part of the heart are not so speedily fatal as might at first sight seem necessary. The same remarks will hold good with reference to all the other cavities.

Rupture of the heart itself, from causes acting at a distance from it, is very rare while the organ is in a healthy state, but not very uncommon when it is softened, atrophied, or fatty. When the accident does occur, the cause which most commonly gives rise to it is a shock to the system, or pressure upon the thorax by a weight passing over it, such as the wheel of a waggon or other vehicle. The force required in either case to rupture the heart must, however, be very great, though it need not necessarily affect other parts of the body. The careful researches that have been made by Dr. John Davy to ascertain the strength of the heart and great blood-vessels, lead forcibly to this conclusion. After conducting seventeen experiments on the dead body, for ascertaining the force required to rupture the cardiac cavities and vessels around, by means of injection, that distinguished physiologist deduces two conclusions:—1st. That the power of resistance by the heart and great blood-vessels, independent of any vital properties of endurance peculiar to them, is enormous; and 2dly. That there is much variation, in point of strength, in the same parts in different instances."[*]

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* Manual of Medical Jurisprudence, 3d edit. p. 226-229.

The result of my own studies and observations is a persuasion that, when the heart is ruptured from a violent shock to the body, the thorax not being pressed upon or otherwise injured from without, the most common, if not the only accident that can cause the rupture, is a fall from a height, with the body alighting straight down upon the feet, or upon the tubera ischii. I have seen numerous dangerous falls, in which the side, back, and head, have first touched the ground; but in none of these have I ever seen the heart ruptured. One remarkable case occurs to me at the present moment. I saw it in Glasgow about five years ago. An unfortunate lad fell from the top of a very high chimney, and alighted upon the ground full length. I write from memory; but I am sure I do not exaggerate in stating that a third part of the larger bones of the body were more or less fractured by the violence of the fall, and yet the heart remained entire; and when the poor fellow was brought to the Royal Infirmary (for he survived long enough to be conveyed there), that organ was still acting, feebly, of course, to the last degree, but not otherwise abnormally.

In studying this matter physiologically, I am inclined to believe that cause may be shown why the drop upon the feet should especially affect the heart. It seems to me that the sudden and violent shock to the erect trunk, produced by a drop on the breech or feet, so acts upon the currents of blood above the heart as to arrest the ascending arterial stream, and at the same time to bring down rapidly a heavy venous stream, and that thus the heart gets overwhelmed, or, it may be, ruptured if the shock is extremely violent.

To put the matter in a plainer light, it may be said that the concussion breaks the effect of one of the strokes of the left ventricle by arresting, or, it may be, bringing back, the current of blood which it has just propelled; and thus, in the following stroke, the ventricle has not simply to force up its contained blood through readily opening aortic valves, as in the natural state of things, but to raise two charges—the proper one and the arrested one. To perform this task the ventricle must necessarily exert unwonted force, and so may either rupture the aorta, if it has power to overcome the resistance, or may be ruptured itself if weak or otherwise faulty.[*]

I may here just remark that, in concussions of this kind, the right side of the heart is not exposed to the liability of rupture so much as the left. I shall give a reason for this further on.

On the principles now laid down, we are enabled readily to account for the sometimes fatal effects of the foolish trick of snatching a chair from under a person when about to sit down.

I remember a case of sudden death occurring in an elderly gentleman from this accident. A chair, on which he was standing for some purpose, was drawn from under him just as he was about to descend; and, dropping down heavily on the floor upon the tubera ischii, he died instantly upon the spot. As far as I remember, an inspection was not made. The case occurred, indeed, long before I entered the profession; but, since then, I have often thought upon what might be the cause of death. I have now no difficulty in believing that it occurred either from a ruptured or overwhelmed heart.

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[*] Davy's Researches, Physiological and Anatomical, vol. i. p. 453.

[*] The manner in which a concussion, such as that described, would bring down the currents of blood, is the same as that which causes any powdered substance to sink in a bottle when the bottom of the bottle is struck sharply on a table, or as that which causes the mercury to fall in the barometer if that is struck in like manner. The reader may test the great force downwards by a collision of the kind in question, by the following simple experiment. Let him take a glass tube; and, filling it three parts full of water, cork both ends, and tie it to a strong wooden rod longer than itself; then let him place it and the rod perpendicularly, and bring down the lower end of the rod sharply on some hard body, when he will find almost instantly that the bottom cork will shoot out, however firmly it has been inserted. Or a stream of water allowed to descend through a piece of intestine fixed on a rod in like manner, will show the same thing. The current visibly quickens in its descent, when the rod is struck, as before.

An example of the effects of collision in bringing down rapidly the descending currents of blood, is seen in an every-day act. When the feet are cold they are stamped, "to circulate the blood," as the people have it; and the result really is that the blood does circulate quicker, and heat returns. But how does this occur? Surely by the collision bringing down brisker currents of arterial blood, and so whipping on the circulation.

In this way, moreover, we are in some measure able to explain why aneurisms near the heart so often arise in persons who indulge in violent bodily exercises, such as running, leaping, hard riding, and the like. Here, from the concussion not being so severe as it is in the drop upon the feet or breech, but often repeated, the heart, or its large vessels, are not at once ruptured, but suffer what is next thing to rupture, and which eventually terminates in rupture—they undergo dilatation; a series of small concussions producing, in the long run, what a great shock produces at once.

For an example of a case of ruptured heart and aorta from a fall upon the feet, I shall transcribe the principal features of one, related by Dr. John Davy in the volume previously referred to, inasmuch as it tends greatly to strengthen the view I have given above:—

"A weakly man, a soldier, about to be invalided on account of long service, was found dead in a chalk-pit near to Chatham, at the foot of a precipice between 50 and 60 feet deep. Externally, there was no mark of violence or appearance of contusion: the face and surface of the body were pale, the pupils contracted, the limbs rigid; the right inferior extremity was a little shorter than the left. It was supposed that the thigh was fractured; and, on exposing the bone, it proved to be so, in an oblique direction, just without the capsular ligament. Nothing morbid was discovered in the brain: no ribs were fractured. On opening the chest, a large quantity of blood was found in the left pleura (about six pints), and a small quantity in the pericardium (about an ounce). The blood was dark, of the colour of venous. No lesion was discovered either in the right auricle or ventricle, or in the vena cava ascendens or descendens, or in the pulmonary artery. The left ventricle also was uninjured, but not so the left auricle and aorta: each was ruptured. The true auricle was ruptured in two places; each opening was sufficiently large to allow the passing of the finger. The aorta was ruptured just above the mouths of the coronary arteries, and also at the upper part of its arch, a few lines below the origin of the left carotid and subclavian arteries. The laceration at its base was nearly circular, and through all the coats; and, were it not for a narrow strip of about two or three lines, which remained entire, the vessel had been completely torn in two: even the external loose cellular membrane was divided to the extent of about half its circumference. The rupture at the arch was oblique, also through all the coats, and rather more than one half the circumference of the vessel. There was no blood in either of the cavities of the heart; both ventricles were firmly contracted, and the valves of the aorta and pulmonary artery were unusually large and perfect. The aorta was carefully examined throughout its course, and in the place where it was ruptured the coats seemed sound, nor did the ruptured auricle exhibit any signs of disease. The lungs were free and crepitous; their substance was redder and contained more blood than usual. The trachea and bronchi were bright red internally, and coated with blood, probably owing to hæmorrhage from the lungs. The other viscera were healthy and uninjured."

Dr. Davy infers that the man lost his way in a lonely night-walk; and, coming to the edge of the precipice, stepped over, and alighted on the feet, or rather perhaps on one foot—that of which the thigh was fractured; and I think there is not the remotest doubt but this inference is correct.

Now this case is one of a most interesting character, and is powerfully corroborative of the views I have been maintaining.

The cause of the ruptured heart and artery was, I believe, the increased column of descending venous blood from the head and upper parts, brought upon the heart, with an arrest in the ascending arterial currents, produced by the violent concussion to the feet.

The appearances in the lungs help strongly to bring out this inference: they, it is said, were fuller of blood than usual, and seemed to have suffered from hæmorrhage. This would necessarily be so. The lungs, with the heart and great vessels, were the parts that most immediately felt the force of the unusual column of blood, put into motion in the manner described.

Dr. Davy expresses an opinion "that there was in this particular case greater tendency to yield in the ruptured parts than in others;" though, at the same time, he admits that these parts were to all appearance sound. But I conceive that there is no necessity for having recourse to such a mode of explanation. In my way of viewing the accident, the same jerk that overwhelmed the left side of the circulatory system simultaneously helped to relieve the right side by causing for a moment the descent, towards the abdomen and lower extremities, of the whole column of the ascending cava. The heavy charge of descending venous blood would by this means have time to enter the lungs before the ascending charge rose into the right cavities with a rebound. Thus the right side of the heart escapes in such cases at the expense of the lungs, and of the left side of the heart, with the vessels proceeding from it.

In addition to the above case, Dr. Davy also relates the case of a boy who fell upon his feet down the same precipice as the soldier, but who escaped unhurt. This is not, however, a matter of much surprise, as the general elasticity of all the tissues in youth would be a great protection; indeed, I believe that no fall is more common in the young than that in which the feet or breech is the part alighted on, but in most of such cases the heart seems to bear the jerk with tolerable impunity; although, that it sometimes suffers even here is quite evident, by the breathlessness and congested face, which continue for a few seconds after the accident.

In cases of accident from this form of concussion, it is not necessary to dwell upon the increased tendency to rupture of the heart that would be produced by an obstacle to the current of blood existing in some part of the organ, such as an indurated valve, or an abnormally small or contracted pulmonary artery or aorta. Neither need I allude to the still greater tendency to rupture that would follow from a thinned or softened state of some part of the heart: the increased liability to rupture in both cases is obvious.

It affords an interesting addition to this part of my subject, to observe the care that is taken by Nature, in those animals where leaping and running are necessary to their existence, to prevent the central parts of the circulating system from feeling the effects of a collision between the feet and the earth. Animals of the feline species, for example, afford a marked instance of the impunity with which such collisions can be borne. A cat falls from the top of a very lofty house, and alights, almost to a certainty, upon her feet; but she feels no ill effects from this, if the legs are not broken. And why does she not suffer? why does not her heart burst, as it would, most probably, in man under like circumstances? Simply because in her circulating system, as in that of quadrupeds generally, an arrangement is made to meet the collision, and it is this:—the blood-vessels do not enter and leave the heart perpendicularly, but horizontally, so that no amount of concussion in falling upon the feet can ever overwhelm the heart with an increased flow of blood upon it.

I have already alluded to the effect of weights passing over the thorax in producing rupture of the heart. When this occurs, and the thoracic walls themselves escape, it must be in the young, where the elasticity of the ribs saves them from fracture.

In leaving this subject of wounded heart, I have only to add that in some instances a portion of the weapon or foreign body with which the wound has been inflicted may remain in the division, and act as a plug in restraining hæmorrhage for a time.

As I have already alluded to syncopal hæmorrhage from vessels below the heart, I need not allude to this subject again, except to recall attention to the fact, that in consequence of the position of these vessels, death from syncope is more rapid in this case than in hæmorrhage from the vessels of the upper extremities.

I now come to consider that form of syncope in which blood is not actually lost from the system, but is simply diverted from the central organ of the circulation.

One of the best examples which can be given of this kind of syncope is that which sometimes occurs upon tying the umbilical cord in the new-born babe, before the respiratory function is properly established. In children born of weakly parents this occurrence is by no means uncommon, and may readily be accounted for physiologically. The current between mother and child is interrupted before that which is to stand in lieu of it,—viz., the current through the lungs, has been formed, by which it happens that the heart is left nearly empty, and so failing, syncope results. Such cases are usually set down as cases of asphyxia, but they are no such thing; they belong to the class syncope, as certainly as though they arose from hæmorrhage, caused by division of the cord, without ligature, in a strong child.

A second example of syncope, from diversion of blood from the centre, without loss to the system, occurs not uncommonly in women upon rising from the recumbent posture during the latter months of pregnancy. Here there is, of course, great determination of blood to the uterus, with a corresponding lessening of it in other parts. While the body is horizontal, the circuit of blood is easily made, and the central organ is pretty fairly supplied; but on rising suddenly from this position, the ascending currents are enfeebled, and the right heart fails from want of stimulus. Another obstacle to the free access of blood to the right heart, also undoubtedly occurs, in such cases, from the enlarged fundus of the uterus pressing backwards on the ascending veins, thus checking the already enfeebled current that is passing through them in opposition to gravity. It is little more than two years since I was summoned to a case of this kind. A poor woman who had advanced to the last month of her pregnancy, was rising in the morning; she had raised herself so far as to sit upon the side of her bed, but on essaying to stand erect she fell backwards on the bed in a state of syncope, from which no efforts could rally her.

Now this is one of the most fearful forms of syncope that can be met with, since it is not benefitted by the horizontal position, for the reason already given, that the uterus falls back with its full weight upon the vessels behind it; thus as effectually cutting off the blood that might gravitate through them to the heart, as though a ligature had been placed around them.

Syncope, then, occurring in advanced pregnancy, must always be considered as highly dangerous; but supervening after labour pains have set in, it does not seem to be attended with such immediate risk.

There are two reasons for this,—first, during the pains the uterus is prevented by its contraction from robbing the circulating system as before; and, secondly, as it is lessened during contraction, so much pressure is not made posteriorly on the vessels. In this manner we may readily account for a circumstance often to be observed, viz., that parturient women, who are in a fainting state during the absence of their pains, at once revive as these return.

Tracing this matter still further, we see cause also why syncope does not occur from the mere violence of a labour pain. This at one time was a matter of much surprise to me. I have sat by the side of a patient during a severe labour, have seen her held for hours, perhaps in almost unremitting agony and exertion, and yet all through with a pulse of perfect regularity; and reasoning upon the fact, I have thought, how strange that it should be so! Had this pain and exertion arisen from another cause, it could never be so tolerated. Before spasm, in a much less degree painful, had continued for half the time, a fluttering pulse and cold clammy sweats would have marked the approach of syncopal dissolution, while here nothing of the kind has happened. But now I view this as arising simply in consequence of the mechanical necessity, that during contraction the uterus is made to pour the charge of blood which it contains back into the general circulation, and that in this way the heart is kept supplied with stimulus. And here, moreover, is explained a cause for the uterus being found bloodless and flabby, in all those cases where death does occur from sheer exhaustion, produced by long-continued pains.

There are, in this form of syncope, two or three predisposing causes, which help greatly in bringing it about on the supervention of an exciting cause. These predisposing causes exist in the heart, and may be of opposite kinds; namely, atrophy of the substance of the central organ, and debility in its muscular power, as occurs during fever and other exhaustive diseases; or hypertrophy of the walls of the heart, and increase of contractile power. Where these predisposing circumstances exist, several exciting causes will help to lead to the fatal event. Sudden rising from the recumbent position is one fertile cause, where the heart is atrophied or weak, from the blood being all passed over the aortic arch, without sufficient *vis a tergo* to make it re-ascend, as previously explained; or, in such a state of weakness, a mental emotion occurring, and causing the blood to be all sent out with a jerk, but again, not with sufficient impetus to return to the centre.

Another exciting cause of syncope, greatly aided by the existence of the above predisposing ones, is, the drawing off of fluids from cavities, without applying pressure; in which case the rush of blood to the unloaded part acts like a hæmorrhage, and produces rapid syncope.

In like manner, heat applied to the general surface sometimes causes syncope, and in this case an hypertrophied state of the central organ of the circulation forms the most dangerous predisposing cause, in that the central organ so diseased throws into the dilated capillaries of the heated part an immense charge of blood, and thus empties itself. I consider this to be a fact of great practical importance, and one to which the mind of the practitioner should ever be recalled when about to employ a bath in the treatment of the diseases of persons advanced in life. A case is quite fresh in my recollection in which a very good practitioner lost a patient from putting him into a hot bath. He was called one night to see a highly respectable gentleman, somewhat advanced in years, who was suffering from severe pain in the abdomen; and thinking that a warm bath would give relief, one was procured, and he himself waited that the patient might be put into it in his presence; when, what was his horror, to see his patient, not one minute after the immersion, fall back in a state of irrecoverable syncope.

At the autopsy nothing was found of great moment, except an hypertrophied heart,—a lesion quite sufficient to account for the result, according to the principles just laid down. The same effects would, I doubt not, have followed, had the heart been thin and weak instead of being hypertrophied; though there is reason to think that death would have been less rapid, as an enfeebled organ would require to make several strokes before, by filling the greedy capillaries, it exhausted itself of its contents so far as to occasion syncope.

Lastly, I may mention, that syncope from this simple diversion of blood may be produced by suddenly removing the atmospheric pressure from an extensive surface of the body; and, that for effecting this purpose, machines have been made, and used in practice, in cases where blood was required to be diverted from a congested organ, without actually removing it from the system.

[To be continued.]

DETECTION OF LEAD IN THE BRAIN AND LIVER.

MM. Chatin and Bouvier, with a view to determining a point of scientific interest, have made an analysis of the brain and liver of a man who died from an acute attack of cerebral affection, caused by lead poisoning, a few hours after leaving the white-lead factory in which he was employed.

The liver was first examined:—It weighed three hundred grammes (= about 8 lbs. Troy weight): having been cut up into small pieces, it was boiled with two hundred grammes (= about 5 lbs. Troy) of water acidulated with pyroligneous (acetic) acid: the solution having been evaporated was carbonized by nitric acid; this residue was boiled with distilled water containing one-twentieth of nitric acid.

After the excess of nitric acid had been driven off by concentration, the liquid was subjected to a stream of hydrosulphuric acid, by which an abundant black precipitate was thrown down. The precipitate having been subjected to boiling nitric acid, a nearly pure solution of lead was obtained, which, deprived of its excess of acid, and reduced to the bulk of ten grammes, produced the following reactions:—1. With hydrosulphuric acid, a black precipitate; 2. With sulphate of soda, a white precipitate; 3. With ferrocyanuret of potassium, a white precipitate; 4. With iodide of potassium, a yellow precipitate.

The cerebral substance treated in a similar manner gave the like results.

It resulted from this analysis that lead was present in both these organs. As iodide of lead is soluble in 1000 or 1200 parts of cold water, it may be inferred that 300 grammes of liver contained half a centigramme (=0·07721 Eng. gr.), and the brain half a milligramme (=0·0077 Eng. gr.) of this iodide, more than half of which salt consists of lead. The process followed in this instance was that advised by M. Orfila for the detection of lead in poisoning, as differing from that of lead in a natural state of combination.—*Journal de Chimie Médicale*, Fevrier 1851. X

MEDICAL GAZETTE.

FRIDAY, MARCH 21, 1851.

The Government has at length been induced to place some legislative restrictions on the sale of arsenic. A short Bill, in reference to this poison only, has been introduced into the House of Lords, and has gone through its various stages rapidly and without opposition; so that ere long we may expect that it will become law.

Lord Carlisle, in introducing the measure, thus described the nature of its provisions:—

"The bill enacted that no person should sell any arsenic without entering in a book to be kept for the purpose a full statement of such sale—the quantity sold, the purpose for which it was required, and the name of the purchaser; thus fixing instantly the residence of the person who bought it, and the purposes for which it was said to be purchased. There were two points which might be regarded as deficiencies in the bill: the first was, that the provisions of the bill were limited to the sale of arsenic alone, whereas it was obvious there were many other kinds of poison which might be used by those who were so inclined to take away life; but it happened that arsenic, from the comparative absence of taste and colour, afforded great facilities for the commission of the crime of poisoning; and he had been told by those who were conversant with the history of our criminal judicature, that, among those classes where the crime was rife, 'arsenic' and 'poison' were looked on as synonymous. We could not debar the use of poison from those whose knowledge, opportunity, or instruction, might show them other poisons for their purpose besides arsenic, but we could debar the ignorant from the use of arsenic. It would be very difficult to draw up a schedule of poisonous substances used to take away life, or capable of doing so; but, even if it were possible, it would not be desirable; for it would not be by any means advisable to advertise, as it were, what poisons were not to be used, and thus show those who might wish to have recourse to them all the substances destructive to life. The other point was the propriety of enacting a minimum amount of arsenic to be sold, suggestions to that effect having been made to Government. He was satisfied such a provision would, on the whole, give a tendency contrary to that desired. For instance, arsenic was used for certain diseases in sheep; and, if persons were obliged to purchase more than they wanted, they would leave it lying about as soon as they had taken what they required, and those who wished to make use of it would have less difficulty in getting at it. The bill did not profess to deal with every sort of substance used as poison, but with a substance which experience taught them might be used for the purposes of crime with fatal facility."

The principles of this measure are very similar to those recommended in August 1849, by a committee of the Provincial Medical and Surgical Association. The fatal facility with which arsenic may be now procured, and the numerous deaths which occur annually from this poison, either through accident or criminal design, fully justify the restriction of the first legislative enactment on poisoning to this deadly mineral. We regard this measure, therefore, as an experiment: it will not prevent the sale or criminal use of other poisons; but these, for the most part, differ from arsenic, in possessing in fatal doses a well-marked taste, which would at once place a person on his guard. If any substance should take the place of arsenic for criminal purposes, no doubt a special act of the legislature will be immediately passed to restrict its sale. We consider, therefore, that the Government has acted judiciously in confining the present measure to the sale of arsenic. The enumeration of other substances might only have had the effect of suggesting the use of other poisons to the evil-disposed.

With regard to the propriety of fixing

a *minimum* quantity of arsenic for sale, we agree with Lord Carlisle that there are great objections to such a proposition. Arsenic is sold at so cheap a rate that, if even a pound were fixed as the minimum quantity, the cost would form no obstacle whatever to a criminal. Again, even when innocently procured, such a regulation might, by want of proper caution on the part of the purchaser in disposing of the residue, increase the number of cases of accidental poisoning.

The bill fixes a penalty of *twenty pounds*, recoverable by summary conviction before a magistrate, on any person who sells arsenic otherwise than as authorised by its provisions; and any person procuring arsenic upon false information will be liable to the same penalty. The bill does not interfere with the sale of arsenic in medicine under a medical prescription.

There appear to us to be some deficiencies which should be supplied before this bill is allowed to become law.

All persons who sell arsenic should be compelled to take out a license. The purchaser and the witness should be compelled to *affix their names and places of abode*, or their marks, in the "Arsenic book" of the vendor. In all cases the purchaser as well as the witness who accompanies the purchaser, should be *adults*, or above the age of twenty-one years. In one instance which came to our knowledge, an artful criminal procured arsenic by the aid of a little girl, whom she took with her as a witness. The girl stood on the door-step while the druggist weighed out the poison. The witness could only depose at the subsequent trial for murder, to the fact of her having heard a jingling, as of a pair of scales, but she could not even describe the colour of the substance sold. If the purchaser and witness be not required to be adults, one of the main purposes of the act,—*i. e.*, of procuring satisfactory evidence in criminal cases, will be certainly defeated.

It may be urged that even with these precautions the act, when passed, will not prevent poisoning with arsenic. We quite concur in this view; but one of the great objects of legislation will have been fulfilled, if it tends to diminish the number of deaths from this poison, and to secure the conviction of those who administer it with criminal intent. The name, purpose, and residence, may, it is true, be feigned; but the party who has a *lawful* object in procuring the poison, will not unnecessarily expose himself to a risk of incurring a penalty of twenty pounds, or of creating a serious imputation on his motives; while, on the other hand, the fact that a person accused of murder has procured the poison under false pretences, and in a false name, will weigh most heavily against him. The Act will be, at all events, a considerable improvement on the present system, under which arsenic may be procured by any one, in unlimited quantity for any feigned purpose, without entailing the slightest responsibility on purchaser or vendor.

We recently noticed the introduction of a Bill into the House of Lords, by Lord Campbell, one clause of which refers to the punishment of persons who administered or attempted to administer chloroform or other intoxicating substances, with intent to rob. The numerous cases of robbery accomplished by the practice of hocussing, have rendered a change of the law necessary. An act which often placed life in jeopardy, and rendered wholesale robbery an easy art, was not sufficiently punished as a misdemeanour; and it is, therefore, highly creditable to the learned judge who is the author of the "Prevention of Offences Bill," that he has proposed to treat this crime as felony, and to punish it with due severity. The fourth clause of the new Bill is to the following effect:—

> "And whereas it is expedient to make further provision for the punishment of persons using chloroform or other stupifying drugs in order the better to enable them to commit felonies: be it enacted, that if any person shall unlawfully apply or administer to any other person, any chloroform, laudanum, or other stupifying or overpowering drug, matter, or thing, with intent thereby to enable such offender or any other person to commit any felony upon the person to whom the same may be applied or administered, or attempted to be applied or administered, or upon his or any other person's property, every such offender shall be guilty of felony, and being convicted thereof, shall be liable, at the discretion of the Court, to be transported for life, or for any term not less than seven years."

The Bill has met with the approbation of the House of Lords, has been read a second time, and there is every prospect that it will shortly become law.

It is not a little singular that the only opposition to such a useful public measure should emanate from Dr. SNOW, a physician who has acquired more experience on the subject of chloroform than any other individual, and who has recently contributed to our pages a large amount of valuable information respecting this and other anæsthetic agents. In a letter addressed to Lord Campbell, of which we have a copy now before us, Dr. SNOW quotes the various cases in which chloroform was alleged to have produced insensibility, but in which the facts proved are, in his opinion, inconsistent with the known operation of the drug. These cases have been already commented on by him, in a paper published in the last volume of the MEDICAL GAZETTE.* He there lays down the proposition that chloroform *cannot* be successfully used for the purposes of robbery, because no person can take it without being made fully aware that he is inhaling some noxious substance; and he has thus time and opportunity to offer resistance. "Therefore," he observes, "to use chloroform for the purpose of overcoming a person, is to adopt a means that cannot be put in force until he is already overcome, and involves a difficulty just like that contained in the juvenile problem of catching a bird by applying a little salt to its tail."

In his letter to Lord Campbell, Dr. SNOW says:—

> "I trust that I have said sufficient to induce your lordship to consider whether it would not be adviseable to withdraw the word chloroform, the presence of which can only be alarming to the public, *suggestive to the criminal*, and little creditable to the sagacity and gravity of the law; whilst its removal would not affect the operation of the Act, even in a case—should such a one again occur—in which it might be foolishly attempted to exhibit the article."

We are at a loss to comprehend the meaning of the words which we have placed in italics, consistently with the view advocated by Dr. SNOW of the utter harmlessness of chloroform in the hands of thieves. The uses of the word chloroform, on his own showing, can *suggest* no more to the criminal in carrying out his design of robbery than would be suggested by the advice to catch birds by the application of salt to their tails. If Dr. SNOW be correct in his view, nothing is suggested to a criminal, because he must use sufficient force to overcome his victim before he can resort to the employment of chloroform to produce insensibility.

It appears to us that Dr. SNOW has here taken a very narrow view of a very important question. The omission of the word chloroform from the Bill would be in our opinion fraught with mischievous results. We care not whether the details of the cases yet published be or be not exaggerated or misrepresented, or whether imputations have not been thrown on chloroform, which that innocent drug does not deserve. The real question at issue, so far as the public is concerned, is this:—Is it not possible for chloroform to be used as an aid in the perpetration of felony; and if so, does the present state of the law sufficiently punish such an offence? The answers to these two questions are, we think, palpable enough. It is not necessary, as Dr. Snow imagines, that chloroform should in all cases be *forcibly* administered, although, even here, as Lord Campbell has suggested, a *weak* person may, by main force, with or without the aid of others, be thus rendered insensible; and cases might occur in which this proceeding would greatly facilitate robbery or burglary[*]. We presume there would be no more difficulty in rendering a person insensible by chloroform than was experienced in chloroformising the grizzly bears at the Zoological Gardens; but there are other cases, in which, but for such a bill as this, the public would be left unprotected. A person may be induced *voluntarily* to take chloroform under false pretences, and a robbery then perpetrated: or a half-drunken man may be induced to respire the vapour, and thus become the victim of designing persons. Lord Campbell's bill fully provides for, and punishes, such offences: we do not say that Dr. Snow would knowingly allow chloroformising-criminals to escape under the present lenient punishment assigned to misdemeanours; but we believe that by confining his views to the *forcible* administration of chloroform, he has altogether overlooked other possible cases of felony.

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* See vol. xlvi. p. 834.

Lord Campbell has announced his intention of not making the alteration in the bill suggested by Dr. Snow. Even if his Lordship were wrong in his views regarding the use of choloroform by thieves, the result would simply be, that no chloroformising offence would occur under the statute, and the public would not suffer. If, however, Dr. Snow had taken up a wrong view of the question, then voluntary hocussing by laudanum might be a felony punishable by transportation for life, while the thief who selected chloroform would be guilty only of a misdemeanour punishable by imprisonment.

IT is just a year since we adverted to the commencement of an endeavour to establish a Children's Hospital in London. The promoters of the undertaking have since then been earnestly and successfully labouring to bring it before the notice of the public; and we are glad to find that they now feel themselves strong enough to commence operations so soon as they can obtain premises suitable for a temporary hospital. A public meeting on its behalf, at which Lord Ashley presided, and which was addressed by Lord Carlisle, the Bishop of London, Sir R. Inglis, Sir James Clark, Mr. A. B. Hope, Rev.

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[*] In his speech in the House of Lords, on Friday last, Lord Campbell made the following remarks:—"A most respectable physician had done him (Lord Campbell) the honour to write him a letter, which he had printed, and there he stated the fear arising from the use of chloroform in this way was altogether imaginary—that no strong man who made resistance could possibly be chloroformed. He believed that was true; but in the case of those who were not strong, and unable to resist, it might happen to many of that class that chloroform would be employed most effectively for facilitating robbery. The gentleman to whose letter he had referred stated that a person thus attacked might refuse to breathe; and that he might turn away his head. But, suppose a wet handkerchief was put to his nostrils, and held there, the man must breathe, and thus inhale the particular gas that came from the chloroform. It stood, indeed, on record that since the discovery of chloroform persons had been convicted before the competent courts of using that article for the purpose of robbery—(Hear, hear). He hoped, therefore, their lordships would be of opinion that those who made such an attempt should not be guilty of a misdemeanour only, as was at present the case; but that any person who tried to commit a robbery by means of chloroform, or such like substances, *though he did not succeed*, should, if convicted, be held guilty of felony, and be liable to be transported beyond the seas."

W. Harrison, Dr. Burrows, and others, was held on Tuesday last, at the Hanover Square Rooms. This meeting afforded good proof that all classes of society are beginning to take an earnest interest in the success of this attempt to supply a want which is felt by all,—more directly, indeed, by the poor, but not the less certainly, in its remote consequences, by the rich.

The proceedings at this meeting show that the managers of the new institution have clearly and distinctly present to their minds, not merely the objects which they wish to attain, but also the difficulties that are likely to retard their attainment. The Committee of the Children's Hospital appear to us to have clear views on both of these matters. They propose to themselves "the threefold object of affording relief to the poor, of promoting the advancement of medical science, and of training women to be efficient children's nurses;" but they recognize the necessity, for the full accomplishment of these objects, of a building specially constructed for the purpose, and, as a consequence, the necessity of patient waiting, and of hard working, until they can raise a Building Fund sufficient to enable them to carry out completely their benevolent project. The names of the Trustees of this Fund—the Honourable A. Kinnaird, Mr. A. Beresford Hope, and Mr. Labouchere—afford an ample guarantee against any risk of its misappropriation or unwise expenditure.

We can scarcely hope to see the institution thoroughly accomplishing all its objects in much less than ten years; and we are therefore very glad that an experiment, on a small scale, is to be made at once;—for the interest of subscribers to a charity flags when, for years and years, the blessings which it promises are merely prospective; and besides, we believe that the temporary hospital will teach the projectors of the institution not a few lessons which they may find useful when they come to plan the permanent building.

The rules which were passed at the meeting, for the future government of the hospital, are confessedly incomplete, but at the same time embrace most of those points on which disputes and dissensions are likely to arise. We confess, that instead of the minute detail of the privileges of governors, we should have preferred the announcement, that the hospital was to be free to all applicants, and practically we have little doubt but it will ultimately be so. The appointment of medical officers is to be for a term of twelve years, leaving them eligible for re-election for a second period of six years, and no more; so that we may hope never to see these posts filled by men who retain them from mere habit, when too aged, or too indolent, or too busy for the efficient discharge of their duties. Another regulation, with which we are pleased, is one which does away with the old mode of election of medical officers by the general body of lay governors,—a most unfit set of persons to be entrusted with such a power. This power it is proposed to vest in the managing committee, a power of recommendation, however, being vested in the medical committee, which latter body consists of the medical officers, and an equal number of medical men, not being officers of the hospital.

All these are steps in the right direction; and we trust that our professional brethren will not allow an institution, not only useful in itself, but which its promoters are endeavouring to work so honestly, to languish for want of their support.*

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* The Resolutions passed at the meeting will be found at page 528.

THE GULSTONIAN LECTURES
FOR 1851.

Delivered at the Royal College of Physicians.

By EDWARD LATHAM ORMEROD, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

LECTURE I.—PART I.

Diseases of the Heart—difficulties of the subject—scope of the present Lectures—Andral's survey of our knowledge of diseases of the Heart twenty-five years ago—deficiencies noted then—how far supplied now—division of the subject.

IT would be hard, Sir, to find an entirely new subject fitted for the present occasion. For that could scarcely be of sufficient importance which had wholly escaped the attention of the many talented and industrious observers who are now engaged in the study of pathology in all its branches. I may seem to have run into the contrary error by choosing a subject so trite as Diseases of the Heart. But you cannot have forgotten what fresh light and interest Dr. Budd threw on abscess of the liver, and Dr. Baly on dysentery, from this place, on similar occasions, in their masterly reviews of these subjects as they had come respectively under their observation. May I shelter myself under their example, in trying to follow, at a humble distance, in the same manner, on a different track?

Apart from its own difficulties I cannot but feel that I have undertaken a very delicate task in addressing you from this place on diseases of the heart. Our accurate knowledge of the matter, indeed, is of no great age; yet its literature is very extensive, and still we are not arrived at that period that we may adopt the conclusions which have been deduced, and forget that they have ever been the subject of controversy, or that our gratitude is due to more than one independent observer for substantiating single points. I cannot think that I have not erred, on occasion, when referring to such points, by defective or inaccurate acknowledgments of the sources of our information concerning them; but I have erred in ignorance, unintentionally.

Besides the systematic works to which one naturally looks for information, there is another class of writings, towards which, from their very numbers, such errors of omission of reference are more excusable. There are masses of valuable cases and essays buried in the volumes of our own and the foreign periodical literature, which it is almost impossible, out of London, to consult and reduce within the limits which the present purpose assigns. The pleasure of having accidentally met with such, of no inconsiderable merit, now and then, has been marred by the thought of how many more there may be to which no such lucky accident has led.

But I should be defeating the object which I had proposed to myself were I to attempt to condense here all the literature and statistics of a subject whose every axiom, perhaps, has been as warmly asserted as denied. And it would be unnecessary; for Dr. Clendinning (Croonian Lectures, MED. GAZ., 1838, p. 442) has supplied the statistics, and Dr. Bellingham (Lectures on Diseases of the Heart, MED. GAZ., 1850) has laid me under great obligations for references to the original papers in which the discoveries on this subject were made known. I would refer to their more comprehensive lectures for this information.

At the risk of incurring the charge of affected humility, I must add one remark. The observation of nature is open to all: "Nature denies her instructions to none who desire to become her pupils;" and with such opportunities as the wards and dead-house of St. Bartholomew's Hospital supplied for testing the accuracy of the descriptions or explanations given by authors, and for comparing their discrepant conclusions with the result of fresh observation, it was scarcely possible not to form an opinion of one's own on the disputed points: the more so, as often occurring in the form of questions from intelligent students: and this with every assistance, which I take this opportunity of acknowledging, from friends and students in collecting obscure cases, and from Dr. Latham and Dr. Burrows in clearing up these obscurities. I could only wish that the results had borne a larger proportion to the opportunities. With the most sincere desire to elicit the truth, it has been my chief pleasure to draw from fresh observations results agreeing with those which have satisfied the minds of the more esteemed inquirers into those particular points. I could desire no more, in seeking the truth, independently as far as might be, than to have their testimony that I had attained it. But, in communicating these results, I feel on how much surer grounds they have known, and how much better they have expressed, what I have laboured to ascertain. It may be thus with all who, devoting themselves to any subject, acquire a feeling of veneration for the very words of the great masters of that particular science. I feel it so towards all those,—the highest names in the past and present generation of physicians in our own country, or on the continent,—who have placed the knowledge of thoracic diseases, and especially diseases of the heart, on its present foundation.

It is now a quarter of a century, since Andral, writing on diseases of the heart,[*] pronounced our knowledge of them,—such as his immortal countrymen, Senac, Corvisart, and Laennec had described them,—to be almost complete. Since that time this subject has engaged the attention of many of the ablest minds in our profession, especially in this country; and additions to our information have continually accrued from their inquiries. Yet will any one say, even now, that our knowledge of the subject is nearly complete? Indeed, information is wanting on many of its most important points, and the solution of one question only opens another inquiry. After all our labour, still, the higher the structure grows, the wider does the district yet to be explored appear from its rising summit.

The points which at that time appeared to Andral to need further investigation were generally these four:—First, the whole subject of pericarditis was a complete mystery; next, the causes of valvular disease were very obscure; thirdly, the effects of valvular disease, either direct, as witnessed in the pulse, or indirect, as in the lesions of different organs, seemed to require a thorough investigation, in order to explain away many seeming anomalies; and lastly, the results of auscultation and percussion appeared, even in the best hands, to lead occasionally to such erroneous conclusions, that it was evident that this most elementary part of the whole subject was imperfectly understood.

I. On each of these points much has been done since Andral first wrote. The whole subject of pericarditis, of which Louis' elaborate researches[†] served but to show the extent of our ignorance, has been mastered, and chiefly by the skill of Dr. Watson and Dr. Stokes.[‡] Indeed, difficulties greater than Andral had conceived have been surmounted as, with our increasing knowledge, they have come into view; for we have learned to look in the now familiarly understood diseases of the pericardium for the explanation of symptoms which had been thought to depend on disease of the brain. And such is the accuracy with which we can now investigate pericardial affections, that it is scarcely too much to say that the amount of fluid in the pericardium can often be measured by the experienced ear with an exactness little short of that of the practised eye. And if the diagnosis of adhesion of the pericardium still remain unsettled, and an obloquy to auscultators, is it not because, in truth, adhesion of the pericardium is of itself unimportant, and has really no symptoms?

II. In the knowledge of the causes of valvular disease, also, great advance has been made. Dr. Latham[*] and M. Bouillaud have satisfactorily traced valvular lesions, in many cases, to acute rheumatism. A disease which had been, with few exceptions, considered all but harmless, save in its present effects, would appear to be, in its remote consequences, almost as great a scourge to mankind as typhus fever. Perhaps this discovery is the single most important contribution to clinical medicine that has been made for many years. More recently, Dr. Barclay[†] has analyzed this subject in an essay, to which there will be frequent occasion hereafter to refer.

III. Again, something has been done towards supplying the third class of Andral's desiderata. Dr. Blakiston[‡] has called attention to the modes in which some of the secondary affections are produced, tracing them, with whatever measure of success, to lesions of particular parts of the heart. And Dr. Burrows[§] has done for the diseases of the brain which arise from the heart what, to display valvular disease in all its terrors, it needs some one to do for the corresponding class of pulmonary affections which crowd our hospitals on each return of winter. This field of observation is still open in all directions. The inquiry may be long and difficult, but, under the hands of numerous and able observers, it is daily bearing fruit.

IV. But it is in the fourth particular that the greatest advance has been made; and it is in the improvements in the physical diagnosis that much of the progress in the other particulars turns. Dr. Hope and Dr. Williams have explained the mode of production of the first sound of the heart[||], and Dr. Carswell has cleared up

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[*] Clinique Médicale, tome iii. 1826.

[†] Recherches Anat. Path., p. 284.

[‡] Watson's Lectures, lect. lxi. 1st edit.

[*] On Diseases of the Heart, vol. i. p. 101.

[†] Med.-Chir. Trans., xxxi. p. 185.

[‡] On Diseases of the Chest, 1848.

[§] On the Cerebral Circulation.

[||] Objections have been made to the theory of the cause of the first sound of the heart, as now generally received, as being too complex. It is a sufficient answer to these objections, that any explanation which did not include all the elements would be too limited. It does not fall within the scope of these remarks to discuss the question physiologically, even had I anything new to add; but it is worth while to point to two pathological phenomena bearing upon it. What share the friction of the blood, or other possible causes, may have in producing the first sound, I have had no means of ascertaining, and cannot say; but my experience would lead me to regard many of the difficulties which beset the earliest auscultators, by his correct interpretation of the second sound. Dr. Hope has applied all this knowledge to practice in his doctrine of regurgitation, hereby explaining symptoms which occur in a large proportion of all cases of heart disease, and which must, before his discovery, have been misinterpreted. Meanwhile, by a close scrutiny of the character of particular murmurs, and the circumstances under which they occur, the category of valvular murmurs has been weeded of some that did not properly belong to it. Dr. Ogier Ward has brought an entirely new element into the field by his discovery of what we now call the venous murmur,[*] and thus supplied us with a means whereby to investigate the nature and causes of coincident arterial murmurs: in the same way, as already noticed, pericardial have been distinguisded from endocardial murmurs.

To our knowledge of the physical conditions for the production of murmurs generally, no entirely new fact has been added, as might, indeed, have been expected; for the theories which still divide opinion were all foreshadowed by Laennec,[†] though he does not appear always to have chosen the best of them.

Much as auscultation is indebted for the rapidity of its progress to the talent of these original observers, it is no less indebted for the steadiness of its advance to the zeal and industry with which less gifted individuals have followed in their track, to confirm or correct their conclusions by a continual recurrence to the observation of nature. Scarce a stone is laid in the structure but it is marked by the name of him who placed it there, and by the names of those who have tried its stability and soundness in all possible ways. For any statement to be generally received with regard to the diagnosis of disease of the heart, indeed, it needs to be quite indubitable.

Still, with all this, the subject is far from complete, even to the extent that the best auscultators and most accomplished physicians may pronounce disease to be present when it is not—even to the extent that the most confirmed valvular disease may sometimes escape detection.[‡] The interpretation of the common valvular murmurs is not yet perfect; and there are some less common signs, such as purring tremor and metallic cliquetis, of which something has yet to be learned. There is reason to think that we know little more than half of the causes of valvular disease, and the progress of that disease on the valves needs to be more fully traced. And the whole sad subject of death by disease of the heart is so continually receiving light from new observations, that its deficiencies, as we have it laid down now, must obviously be very many.

The subject of diseases of the heart is too large to be included in the compass of three lectures: nor, did even time allow me fully to enter upon it, could I ask your attention to my version of what Hope, Latham, Watson, and Williams, have already put forward with more ability and more authority. For the present occasion, the consideration of one part—namely, valvular disease—will suffice; and here, too, rather limiting ourselves to the examination of a few points which still remain open to discussion, than glancing cursorily over the whole subject. I fear that this mode of proceeding may give an unconnected character to all that I have to say, and that less important points may obtain undue prominence, while some of the most essential and most practical points are passed over almost without notice: but the circumstances of the case, and the nature of the materials from which these lectures have been composed, render this mode of treating the subject in some sort necessary. And I would offer this series of essays rather as a commentary on or as supplementary to the more complete treatises with which I may assume you to be familiar, than as constituting in themselves a

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the dull sound of hypertrophy, and the sharp click of dilatation, as illustrating the muscular and valvular elements of the first sound, respectively, in their extreme degrees. I cannot reconcile with pathological observation any theory which would exclude either of these from the formation of the normal first sound of the heart.

[*] MEDICAL GAZETTE, vol. xx. p. 9.

[†] Hope on the Heart, pp. 80-96, et seq.

[‡] The Dublin School of Pathology, to which we owe so much in the knowledge of diseases of the heart as in other subjects, published in 1838 (Dublin Journal, vol. xiv. p. 178), in the names of Dr. Graves and Dr. Stokes, a formal expression of the recognised difficulties of the physical diagnosis of valvular disease:—

1. That the physical signs of valvular disease are not yet fully established.
2. That, taken alone, they are in no case sufficient for diagnosis.
3. That, even in organic diseases, *the nature and situation* of murmurs may vary in the course of a few days.
4. That all varieties of valvular murmurs may occur *without* organic disease.
5. That organic disease of the valves may exist to a very great degree without any murmur whatsoever.

It is a small matter to express my own present assent to these propositions; but, as it is always harder to profess incompetency than practical superiority, we owe much to Dr. Graves and Dr. Stokes for lending the protection of their names to those who would dare to express a doubt and a difficulty where all may be made to seem so plausible and so easy.

compendium even of that single part of this subject to which I have limited myself.

The subjects for investigation may be conveniently referred to four heads :—

I. The causes of valvular disease.

II. The physical diagnosis.

III. The organic changes on which the physical signs depend.

IV. The general symptoms, and their treatment.

I. CAUSES OF VALVULAR DISEASE OF THE HEART.

The inquiry must rest on morbid anatomy —Influence of age on the results— Various causes—Rheumatism, value of an endocardial murmur during—Difficulties of the inquiry—Congenital malformation involving elementary imperfection — Renal disease distinguished from rheumatism in the nature and situation of the effects—Inflammation of neighbouring parts—Other causes—Inconclusive nature of the evidence.

We have already seen how much has been done in this matter since Andral wrote his classical survey of the existing state of practical medicine. A few years ago we should have deemed this subject better understood than we do now; for Dr. Taylor has added a good deal to our knowledge, and thrown doubt on some of the received doctrines of the causes of pericarditis.* Dr. Barclay has carried the same investigation into the subject of endocardial affections,† to which our attention at present must be limited.

For the purposes of the present inquiry, 181 cases of valvular disease of the heart, disclosed by dissection, have been tabulated. They are divided into two series :— 1. Containing 39 cases where the valvular lesion was the cause of death ; 2. Containing 142 cases where it was of less pathological importance. In some, indeed, of the latter series, the valvular lesion might be looked upon as a mere morbid appearance, which had produced no symptoms during life, and appeared quite incapable of so doing. My friend Dr. Barclay's most elaborate paper, based on 79 cases, with a larger basis on particular points, supplies a means wherewith to compare the results.

The cases selected for the present inquiry have been restricted to those where the existence of valvular lesion has been determined by dissection. A much larger basis of observation, it is true, might have been obtained by tabulating the results of auscultation. It does not, however, appear safe to conclude from auscultations and symptoms alone without dissection. It is needless to enlarge on this point : a single instance will suffice. The results of auscultation and dissection in early life are directly opposed to each other—that is to say, murmurs are most commonly heard at the sigmoid orifice, while disease is most commonly found on the auriculo-ventricular valves. This contradiction depends on the frequent occurrence of functional murmurs at this period of life. They occur, indeed, so frequently as to conceal and even invert the proportion of lesions of the sigmoid and auriculo-ventricular valves which dissection establishes at this period. Unless we can eliminate this fallacy, we must be content to forego all assistance from such a source, as only calculated to mislead, and limit our inquiries to the results of dissection.

The reputed causes of valvular disease are not many. Rheumatism; the exanthemata (of which I have no experience as such) ; renal disease ; congenital malformation ; want and intemperance ; accident ; inflammation of neighbouring organs : these include all the causes of most common occurrence.

Generally speaking, it may be said that these causes have each a tendency to affect particular valves. Considering the different ages at which these causes are most

Age.	1st Series.					2d Series.					Total.				
	No.	Mit.	Aor.	Tric.	Pul.	No.	Mit.	Aor.	Tric.	Pul.	No.	Mit.	Aor.	Tric.	Pul.
— to 20	9	9	5	1		21	18	12	1		30	27	17	2	
20 „ 30	10	8	4	2	2	21	18	10	1	1	31	26	14	3	3
30 „ 40	9	5	3	3		36	19	24	2	2	45	24	27	5	2
40 „ 50	5	5	3	2		27	20	19	1	1	32	25	22	3	1
50 „ 60	2	1	2	1		22	14	20	3		24	15	22	4	
60 „ —	4	4	3			15	12	11			19	16	15		

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* Med.-Chir. Trans. vol. xxviii. p. 453.

† Ibid. vol. xxxi. p. 185.

active, especially (to anticipate thus much) rheumatism and the effects of want or intemperance, it were to be expected that the simple difference of age would show a great difference in the results of disease, according to the predominant action of any one cause during the particular period. These results are set out in the preceding table.

This table shows clearly the preponderance of affections of the mitral valve during the earlier periods. The same appears from Dr. Barclay's table. He takes 34-35 as the point of division, and finds—

	Cases.	Lesions.	
		Mitral.	Aortic.
Before 34	18	17	15
After 34	61	25	37

agreeing sufficiently with the above results.*

What the proportion of diseased to healthy valves at each of these ages may be, I have no means of determining. Of about five hundred dissections, valvular disease of some kind and degree or other was found in one hundred and eighty one cases. But this is probably above the average. For some of these patients were watched for a very long time to obtain an inspection of the heart after their death, and the pains which I myself took, and the assistance I have derived from friends in extending my experience, has been greater in this than in any other form of disease. The results accordingly are disproportionate, and unfitted for exact numerical comparison.

Of the conditions above enumerated there are four which have been found to precede, or coexist with, valvular disease, sufficiently often to allow one to think that the occurrence was more than a mere coincidence, and to give some means for tracing the nature of the connection, namely, rheumatism, congenital malformation, want and intemperance, and renal disease. In the annexed table, the two series of cases fatal by valvular disease (α), and of cases presenting evidence of valvular disease after death (β), have been kept distinct under their several conditions.†

Cause.		No. of cases	Seat of the Lesion.			
			Mitral.	Aortic.	Tricuspid.	Pulmonary
Rheumatism	α	21	18	11	5	1
	β old.	9	8	5		
	β rcnt.	12	12	10	1	
	Total.	42	38	26	6	1
Congenital malformation.	α	5	3	3	1	2
	β	2	1	2		
	Total.	7	4	5	1	2
Want and intemperance.	α	6	4	3	2	
	β	35	22	26	1	2
	Total.	41	26	29	3	2
Renal disease.	α	12	11	8	2	1
	β	30	25	17	2	
	Total.	42	36	25	4	1

The inference is plain that rheumatism and renal disease coincide with affection of the auriculo-ventricular rather than of the sigmoid valves of either side; but of both valves of the left side rather than of either of those of the right. That congenital

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* It is scarcely necessary to do more than indicate one circumstance which limits the application of these tables, namely, that the death of the patient does not commonly occur within exactly the same period as the causation of the disease. Many valves, for instance, injured by rheumatism may not come under the hands of the anatomist till extreme old age; years after the infliction of the injury.

† Two cases, namely, one of mitral and aortic and one of pulmonary valvular lesion, have been entered under both rheumatism and congenital malformation. Some cases entered under renal disease have been also set down under rheumatism, and others under want and intemperance.

My results differ a little from those of Dr. Barclay. He finds rheumatism (op. cit. p. 190) a cause of valvular disease in 15 out of 79 cases, or 18·9 per cent. In the cases analysed above, it was found in at least 42 out of 181, or in 23·2 per cent.

The lesions in my 42 cases (O,) and in 50 (B,) which Dr. Barclay has analysed, were thus distributed—

	B.	O.	
In	—	4	the mitral, aortic, and tricuspid valves were affected.
	—	2	mitral and tricuspid.
	41	19	mitral and aortic.
	5	13	mitral only
	4	3	aortic only
	—	1	pulmonary only.
	50	42	

From which it would appear that there is not always in acute rheumatism so strong a tendency to affection of both sets of valves on the left side of the heart as occurred in Dr. Barclay's cases. Speaking now of the results of rheumatism as disclosed by dissection at all ages.

malformation, on the contrary, induces sigmoid rather than auriculo-ventricular disease; observing this preference on both sides of the heart, though still affecting the left rather than the right side. The various causes which are included under the name of want and intemperance appear to act almost exclusively on the left side of the heart, and, by a slight preference, on the sigmoid valves. On the effects of three of these causes, namely, rheumatism, congenital malformation, and renal disease, there are a few remarks to be made which will find their most appropriate place here.

Rheumatism.—It is often asked, what becomes of the patients who are dismissed from our large hospitals after an attack of acute rheumatism with an endocardial murmur? In other words, what is the pathological value of an endocardial murmur under such circumstances? The question is very natural and simple, and part of the answer is certain and satisfactory. Some of these patients have no valvular disease at all, the murmur is anæmic or functional, and as they get strong the murmur ceases. Some of them, again, die, at a more or less distant period, of valvular disease of the heart. But the answer, as it relates to the remainder, is, with all its importance, so very obscure, that it will not be superfluous to point to a few of the causes which have continued to keep it in obscurity, in spite of the industry and intelligence which have been for some years bestowed upon the solution of the question. And the same facts may serve to show the grounds on which we form our prognosis under these circumstances.

Practically, the question is little more than one of morbid anatomy. All other sources from which information might be expected are almost entirely closed against inquiry. For comparatively few of the patients who have been the subjects of observation at the beginning of the disease fall again under notice, and still more rarely has the same observer the opportunity of watching the disease through, in one individual. The same remark, of course, applies more or less to all chronic diseases; but it applies pre-eminently to the results of acute rheumatism, as pre-eminently the disease of the poor patients of our hospitals. And difficult as it is to follow up the cases of all hospital patients, yet here another difficulty is added, from the fact that a large proportion of rheumatic patients are young persons of no settled habitations, many of them servant-girls, so that they can very rarely indeed be observed, for any length of time, after they have left the hospital.

We may conveniently divide the history of rheumatic valvular disease into three periods. Our knowledge of the first period, namely, that when the valvular lesion is inflicted, is pretty complete in all its details, for the application of the cause is readily appreciable; and the effects are easily recognized, very characteristic, and of not uncommon occurrence.

Again, another tolerably well-defined period, is that when life fails under the effect, direct or secondary, of obstruction to the circulation by valvular disease; and here, again, our knowledge is pretty complete, for the various lesions may be recognized and interpreted with greater facility than in most other organs; and the symptoms and physical signs are well understood. But between these two periods there is much of the utmost interest and importance almost entirely unknown, and this is the void to be filled up.

As far as my knowledge of what has been expressed on this subject goes, I think that physicians in general have filled up this void in rather gloomy colours; and naturally enough, we come to take an unfavourable view of the question. For we can speak only of what we see and know, and of nearly all the cases of which we know anything, we know that the disease has gone on from bad to worse, till it has destroyed life. And this, too, happens naturally enough, because, so long as the patients are well, they do not offer themselves to observation, and we see nothing, except by the merest chance, of those who have completely recovered. It is only those who have not recovered who fall under notice.

So we come insensibly to look upon an endocordial murmur arising in the course of acute rheumatism as indicative of the existence of fibrinous growths on the edges of the valves, and upon these fibrinous growths as the first stage of the most serious valvular lesions: for several reasons. First: because patients with an endocardial murmur dying during, or shortly after, an attack of acute rheumatism, mostly present such fibrinous growths; then, because many patients coming under observation with confirmed valvular disease of the heart date their symptoms from an attack of acute rheumatism:[*] and lastly, because the facts to justify a contrary opinion are so few and so liable to error.

All that pathology has to tell us, then, serves but to illustrate the unfavourable half of the answer; it tells us only what is too obvious to remain long concealed. Where there is any thing that can attract a patient's notice,—the recollection that he could not run up stairs, or that he used to find his shoes tight in an evening, for instance,—there something may possibly be learned. But where health has been re-established; where there are, consequently, no present symptoms for the patient to complain of, nor for the physician to enquire after, relative to the heart, nothing is learned. And this is happening every day,—a great medical truth, the solution of a most important problem, is actually passing through our hands, which we, from our ignorance of the fact, are unable to grasp. From the majority of patients, the subjects of previous rheumatism, who come under notice, nothing is learned. Yet it is not only our want of information as to the fact of the previous occurrence of rheumatism which stands in our way. For even where our attention has been fully turned to this point, the information which can be obtained is small, and the evidence conflicting to a degree of which those only who have been at much pains to collect and estimate it can have any conception. Practically, the question is, indeed, little more than one of morbid anatomy, to which head I would defer its further consideration.

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[*] Bouillaud (Rhumatisme Articulaire, p. xiij Paris, 1840,) says that of 300 patients with disease of the heart, more than half dated their symptoms from an attack of acute articular rheumatism.

Congenital malformation. — That congenital malformation is a very important cause of valvular disease, especially of that form which there will be occasion hereafter to call the second form, may fairly be deduced from the foregoing table. It will, however, be of interest to dwell for a moment on the mode of connection of these two conditions, as involving a principle of very wide application.

It is a general law, that parts imperfectly developed are, as such, especially liable to disease or spontaneous degeneration. This law applies even to the products of disease, which are themselves obnoxious to further degeneration, in some sort according to the rapidity of their development. Moreover, it may be inferred that the degeneration which such parts spontaneously undergo, or the disease which they take on under the influence of causes insufficient to affect the same parts when normally constituted (call it disease or degeneration, as we will), is that which the same parts, when normally constituted, have a specific tendency to. If this inference be correct, the form of valvular disease to be called the second, which is so well illustrated in these cases of congenital malformation of the sigmoid valves, must be regarded as exemplifying that to which the valves are by nature liable.

In other words, the results of the ordinary processes of decay of normally constituted valves, and the disease which destroys congenitally malformed valves in early life, claim to be considered as identical. Such allowance only must be made for the difference of results as the comparatively greater activity of the process, and the presence of an exciting cause in the latter case, might reasonably demand.

But before assuming this identity on such grounds, it is necessary to meet one very obvious, though, apparently, only superficial objection—namely, that this so-called natural disease is not as common as that whose cause we seem to find in rheumatism or renal disease. The supposition involved in this objection is, I believe, contrary to the real state of things, if the lesser manifestations of each form and at all ages be taken into the account. Yet, were this not so,—were rheumatism the cause of the greatest number of valvular lesions, and those of the first (as they are), and not of the second form,—still the objection is unreal. For no one will deny that rheumatic affection of the valves of the heart is an accident, in the medical sense of the word. However far the tendency to rheumatism, even to rheumatic endocarditis, may be innate in the individual, none can deny that the attack itself, and its results, are purely accidental.* They are the effects of some contingent circumstance, for all that they may be of more common occurrence than the results of natural decay; just as death by old age, even among old people, is a much less common event than is death by the contingencies of bronchitis or paralysis. But for all that, it is the natural end of life.

Renal disease.—The results of renal disease, too, appear to demand a few remarks, not precisely on the same grounds as the effects of the two causes just specified, but to disentangle them from the results of other causes with which, in the tabular analysis, they have become combined. The results of renal disease, as there numerically estimated, scarcely differ from those of rheumatism. But this fact requires, and will repay, a little closer examination as to—first, the frequency of affection of particular valves; and second, the nature of the valvular lesions.

1. First, as to the proportionate frequency of the affection of particular valves.

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* "The laws by which innumerable things happen of the greatest influence upon the affairs and state of the world,—these laws are so wholly unknown to us, that we call the events which come to pass by them accidental; though all reasonable men know certainly that there cannot, in reality, be any such thing as chance, and conclude that the things which have this appearance are the result of general laws, and may be reduced into them."—Butler's Analogy, Part II. Chap. iv. § iii.

On this question the cases of renal disease from Series I. are of no use; for almost all of them had also suffered acute rheumatism. Indeed, they quite contradict some of the inferences from Series II., where these two pathological conditions were as uniformly distinct. To facilitate inquiry, in the following table the numbers have all been adjusted proportionably to one hundred cases; the mean of the patient's age has been taken, and the cases of a corresponding period of life, from a previous table (p. 6), have been reduced to a similar scale. The proportion of valves affected and sound (allowing four valves to the heart), is given in the last column.

Series II.	Age.	Mitral.	Aortic.	Tricus.	Pulm.	Valves per cent. Affected.	Sound.
Renal disease . . .	45·4	83·3	56·6	6·6		36·6	63·4
All other causes . .	40 to 50	74·0	70·3	3·7	3·7	37·9	62·1
Rheumatism . . .	25·6	95	70	5		42·5	57·5
All other causes . .	20 to 30	85·7	47·6	4·7	4·7	35·7	64·3

The distinctions between the effects of renal disease and those of rheumatism on the endocardium, thus numerically estimated, are tolerably clear. Renal disease does not induce quite so large a per centage of valvular lesions as do all the diseases whose combined results in this particular were examined at the same period of life. Singularly, no rheumatic case falls within these limits of age—forty to fifty—in my cases, and only one in Dr. Barclay's cases. Comparing, therefore, for want of any other data, the total effects of the two causes, regardless of the difference of the age at which they each most distinctly show themselves, the per centage of valvular disease induced by renal disease appears very much lower than that induced by rheumatism. On the same grounds it appears that renal disease affects the mitral rather than the aortic valves in a higher proportion than even rheumatism does.

But while thus numerically estimating the effects of rheumatism and renal disease severally, we must recollect how common a complication of renal disease sub-acute rheumatism is. The history, indeed, of the cases tabulated from Series II. represents the two affections as occurring independently in the particular instances. And the numerical conclusion from such representation cannot be gainsaid. I owe it to those who have expressed their opinion on this subject to show how far the results of my observations agree with theirs. But I should be expressing an assurance which I do not feel were I not to add, that the facts on which the comparison is based do not bring conviction to my own mind; for in many cases the occurrence of rheumatism may have been overlooked.

The same remark applies to the effects of want and intemperance, with which, as might be expected, several cases of renal disease in Series II. coincide. The positive statement of their having been in want or dissipated is, unhappily, only too trustworthy. But this very fact much detracts from the value of the negative assertion concerning the non-occurrence of rheumatism. It places them in a class habitually exposed to disease of all kinds, and notoriously unobservant of their symptoms.

2. Secondly, as to the nature of the lesions, as far as we may go without anticipating what will form the subject of inquiry elsewhere. In Series I. the renal and rheumatic cases are nearly identical; and the morbid products must be considered in so far as the common result of the two causes. And so far, almost uniformly, what there will be occasion to describe as the second form of valvular disease prevails, and in its most extreme degree. In the renal cases of Series II. the results are much less striking, as might naturally be expected. But the changes have a character of their own. In their description the terms of opacity and general thickening of the valves are of the most common occurrence; while in that of the rheumatic cases the square edgings of the valves, and the concentration of the lesions on the edges of contact, are more particularly noticed.

To deny that renal disease has any influence in inducing valvular disease would be contrary to the fair inference from these observations. But I cannot look upon its independent influence as of any very great importance in this point of view. It is as a modifying rather than as an original cause of valvular disease that it seems to me to possess any high pathological interest. Dr. Barclay, however, in his valuable paper already quoted, would give renal disease a higher place among the causes of valvular disease than my observations allow me to assign to it. He has also met with it more frequently—namely, in forty-one out of seventy-nine cases, or about 52 per cent.: it occurred in not more than 23·2 per cent. of my cases.

There are still a few conditions whose claim to the consideration of causes of valvular disease requires to be investigated.

The occurrence of inflammation in a neighbouring part—chiefly the lungs or pleuræ—is another reputed cause of inflammatory affections and consequent organic disease of the investing or lining membrane of the heart. The grounds of this opinion, as far as concerns the endocardium, do not appear to me to be satisfactory.

There are necessarily but two sources whence the evidence can be drawn,—namely, cases of recent inflammation of these parts, or, cases displaying traces of its former presence. Neither of these appear to me to furnish the required data.

I. As to previous inflammatory affections of neighbouring parts. Practically, we are almost limited to the observation of the traces of such previous action in the pleuræ; for the traces of previous pneumonia are confessedly of too equivocal a character to be made the basis of any further inferences. Now, in a very large majority of cases of pleural adhesions, of whatever extent, tubercles are found in the lungs. But the admitted antagonism of the tubercular diathesis[*] and valvular imperfection, and the equally admitted fact of the close connection of pulmonary tubercles with pleural adhesions, must tend very much to diminish the evidences of the connection between pleural inflammation and valvular disease.

Notwithstanding this large deduction, the proportion in which valvular disease of the heart, and the traces of old pleurisy, are found to coincide, is certainly higher than that which is found to exist in patients dying of all disease, including pulmonary phthisis. In the examination of the bodies of 486 patients, dead of all diseases, of which I have more or less complete records available for the present purpose, pleural adhesions were found in 225; less than one half. In 182 of these 486 patients, who presented evidences of valvular disease of the heart, of whatever kind or degree, pleural adhesions were found in 94; rather more than one half. But before accepting the conclusion from these numbers, we must allow much for the greater attention bestowed on the examination and description of the thoracic organs, in cases of fatal thoracic disease. A fact this, which would obviously raise the proportion in which pleural adhesions have been found in connection with valvular disease of the heart.

Granting, on the grounds of their frequent coincidence, a more than accidental connection between the traces of old pleural adhesions and old valvular disease, we are yet very far from being entitled to assume that in the pleurisy we see the cause of the endocarditis. They may have a common cause; as they have, for instance, in cases of rheumatic pleurisy. We cannot hope to arrive at any certain conclusions, without a certain knowledge of the cause of the pleurisy, or at least of the date of its occurrence. I cannot, therefore, put any confidence in the deductions from cases of old pleural adhesions only discovered after death, in our present, and what must be, I believe, our perpetual state of uncertainty concerning the occasion of their origin, in the great majority of cases.

II. The examination of recent cases of pulmonary inflammation makes very much against the existence of any close connection between inflammation of the endocardium and that of the lungs or pleuræ. I have more or less complete notes of the dissection of eighty-eight cases dying with recent pleurisy, and of ninety-five with recent pneumonia. Several of the cases of these two affections are identical; but for the present purpose it is needless to enter into any elaborate analysis, and to set out this distinction with accuracy, for, out of the whole number, only six had coincident endocarditis. Five of these six cases had at the time acute rheumatism. The sixth died of meningitis. In her the existence of pneumonia was questionable, and the inflammation of the endocardium was limited to vascular injection of two patches of the mitral valve. It appears, therefore, that inflammation of the lungs and pleuræ, apart from the cause of that inflammation, have little to do with producing endocarditis.

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[*] Rokitansky, who has brought a larger mass of facts to bear on this subject than have hitherto been employed in its examination, speaks very decidedly of the antagonism between tuberculosis and valvular imperfection (Path. Anat. Bd. i. S. 522). But he finds more reason to connect his opake yellow granular [croupös] tubercle with disease of the valves of the heart, and of the great vessels (S. 524).

Dr. Walshe, in his able report on phthisis (Brit. and For. Med. and Chir. Rev., Jan. 1849, p. 232) says, "I have never once seen cardiac disease, of such kind as to cause hæmoptysis, co-existent with *phthisis*, using the term in its practical sense; but in a fair number of instances I have seen advanced cardiac disease, in persons whose lungs contained *crude tubercles and grey granulations*. It may be, therefore, that the conditions of the system existing in heart disease are unfavourable to the development of tubercle; but the unfrequency with which the two kinds of disease are found together, doubtless depends, in the main, on the difference in the periods of life at which each is especially prone to occur."

In the notes of my own dissections the number of cases of valvular disease is, from various causes, disproportionately large. But, where this peculiarity does not interfere, the numerical conclusions agree pretty closely with the above.

Tubercles or their remains were found in the lungs of

2 in 39 = 5·1 per cent. who died of valvular disease.
31 in 145 = 21·3 per cent. who had, but did not die of, valvular disease.
142 in 495 = 28·6 per cent. who died from all causes with all diseases.

Valvular disease, of whatever kind or degree, was found in about 30 per cent. of patients having tubercles in their lungs; 37 per cent. of all cases, with or without tubercles.

My experience of acute non-rheumatic pericarditis is too limited to allow me to speak decidedly on the subject; but, such as it is, I believe inflammation of the investing has little tendency to spread to the lining membrane of the heart, apart, as before, from the original cause of the pericarditis.

So, too, with regard to purulent inflammations of, or depositions in, the areolar tissue in the neighbourhood of the heart. My own more limited experience in this matter would show that such processes have no more tendency to induce endocardial affections, than have inflammations of the same nature occurring anywhere throughout the body.

The question, how far the effects of a previous attack of endocarditis may be looked upon as the cause of a second or other attacks, is more complex. Indeed, it requires for its complete solution that we should know the exact history of endocarditis as a morbid process; to the discussion of which part of the present subject its consideration must therefore be deferred.

On the connection, in the last place, between atheromatous disease of the arteries, and valvular disease of the heart, the records of my dissections do not allow me to offer any remarks, for atheromatous disease is not noted in my dissections, unless when of considerable amount. And being of a most universal occurrence in some degree, it would be necessary to have a very carefully graduated table of its amount, if we would trace its connection with any particular condition. Such I have not at command. Only, of the cases where great disease of the coats of the arteries was noticed, valvular disease was found in more than half. And the form of valvular disease noticed under these circumstances, was, almost without exception, of that kind which has already been alluded to as the second; which is coincident also with renal disease, and with want and intemperance.

Before leaving this subject, I would ask your attention to one remark on what has been said. It is needless to explain the difficulties which beset any inquiry resting on the statements of poor hospital patients, as this does. And I should be claiming great merit to myself if I said that I had surmounted them. I do not apologise for my numbers being so small, but beg you to accept with caution what, with the utmost care, may conceal important errors. And this the more with regard to those conclusions which are at variance with those which Dr. Barclay has made in his valuable essay on this subject, already so often referred to. It is a matter in which we do well to be cautious, and hesitate before we accept any inference as true, and admitting of further application.

Though there were no reason to doubt the conclusions above drawn, yet it would be almost impossible for one observer, in one life, to prove their correctness. For the greater number of diseased valves are found on dissection, not of patients where the one assigned cause, and that only, has operated for a known period, but of patients dying of chronic bronchitis or anasarca, many years after the infliction of the original injury. These, too, having been exposed intermediately to all the causes usually considered as capable of inducing valvular disease of the heart, such as habitual intemperance, violent muscular exertions, and all the distresses and privations of a poor man's life. Besides, the assertion that these patients have or have not ever suffered from acute rheumatism, is rarely sufficiently trustworthy to be taken as a basis for any calculation. Much less so is their statement as to whether symptoms of affection of the heart were noticed during such an attack of rheumatism. Sometimes even auscultation fails to supply us with the exact date of the commencement of valvular disease; as, for instance, when the organic lesion has happened not to interfere, at its commencement, with the action of the affected valves.

BIRTH OF FIVE LIVING CHILDREN.

A WOMAN, aged thirty-four years, pregnant the sixth time, suffered very great inconvenience from the size and distension of the abdomen. The first child was delivered by the forceps, the pains having ceased. The second was delivered by the hand, as the contractions of the uterus were still absent. After its delivery a third bag of waters was found, and another fœtus delivered by the feet. After M. Seslo, the attendant, had divided the cord and removed the placenta, a fourth set of membranes presented themselves, from which a fourth child was delivered footling. A fifth was born also in the same manner. The uterus began to contract in about five or six minutes afterwards. The infants were all born alive, and cried. The following are their weights and measurements:—

		In length			Pounds.
1st	measured	15	inches and	weighed	3½
2nd	„	12½	„	„	2½
3rd	„	13	„	„	3½
4th	„	14	„	„	3
5th	„	11	„	„	3

At the end of three hours No. 2 died. No. 4 lived twelve hours. No. 3, seventeen hours. No. 5, twenty-five hours. No. 1, nine days.—*L'Union Méd·cale*, 1851. x

Reviews.

Statistical Reports on the Health of the Navy, for the Years 1837 *to* 1843. *Part I. South American Station; North American and West Indian Station; and Mediterranean Station.* Printed by order of the House of Commons. Folio. 1850.

We have had for some time before us the First part of the Second Series of Statistical Reports of the Health of the Navy, which has been prepared with very great care and industry by Dr. Bryson. Our readers are probably aware that the first Series was drawn up by Dr. Wilson, now of Haslar Hospital. The forms and the classification adopted by Dr. Wilson have necessarily been to a great extent followed by Dr. Bryson. The Cullenian Nosology was assumed as the basis of classification, which, as Dr. Bryson mildly observes, "although in some parts objectionable," it was not, from the nature of the Reports, possible to make any important alterations, "unless at the expense of an amount of labour, which no single individual could attempt to perform." It appears also to have been desirable to retain, in the present series, the classification of the former, in order that the results obtained for the two periods might be fairly contrasted. The first period extended over seven years, commencing with 1830, and terminating with 1836. The series now before us embraces also a period of seven years, from 1837 to 1843, inclusive.

Of the value of these Reports, even under the disadvantages of Cullenian Nosology, it is scarcely possible to form too high an estimate. They present this feature, which is wanting in the returns of the Registrar General, viz. that they represent the *morbility* of an extensive population, as well as its *mortality*, under the influences of varied climate, and differences of duty.

In order to form a correct idea of the pains bestowed, and of the precautions taken by Dr. Bryson, in arriving at correct data for the basis of his calculations and comparisons, our readers must consult the Report itself. In the meantime we purpose to place before them a few of the results, which appear to possess interest to the profession generally.

This object we think will be attained by quoting the prevalent diseases of each "Station," with their relative mortality.

1. *South American Station.*

This station, it appears, has been made to vary considerably in extent during both periods; at one time including parts of the North West coast, and of the West and East coasts of Africa.

We have abridged the following table:

	Atlantic Coast.				Pacific Coast.			
	Mean Strength 10,412.				Mean Strength 8,551.			
	No. of Cases.	Ratio per 1000.	No. of Deaths.	Ratio per 1000.	No. of Cases.	Ratio per 1000.	No. of Deaths.	Ratio per 1000.
Fevers	733	70·4	9*	·9	670	78·4†	16	1·9
Inflammation of the lungs and pleura	187	18·	2	·2	108	2·6	3	·4
" of bowels and stomach	25	2·4	3	·3	29	3·4	—	—
" of liver . .	89	8·5	1	·1	54	6·3	6	·7
Rheumatism	676	64·9	1	·1	705	82·4	—	—
Hæmoptysis and Consumption	55	5·3	13	1·2	39	4·6	9	1·1
Dysentery	96	9·2	4	·4	70	8·2	5	·6
Diarrhœa.	1,187	114·	3	·3	822	96·1	1	—
Syphilis	226	21·7	—	—	311	36·4	—	—
Gonorrhœa	167	16.	—	—	244	28·5	—	—
Ulcers.	1,182	108·7	—	—	620	72·5	—	—
Totals	4,573		36		3,672		40	

* Ratio of Mortality on the Atlantic Coast 7·399 per 1,000.

† Ditto ditto on Pacific Coast 10·0 per 1,000.

to exhibit the principal diseases occurring during seven years, from 1837 to 1843, on the Atlantic and Pacific Coasts, which at present constitute the South American Station.

The wholly dissimilar characters of the physical geography of the two sides of the continent, it will be seen, influence, to a great extent, the diseases of the respective regions.

Fevers seem to have been in excess on the Pacific coasts, and attended with a higher mortality than on the Atlantic coasts, while the proportion of the more important inflammatory diseases was greater on the East than on the West side of the Continent; but on the other hand the average mortality was greater on the West, the proportions per 1000 being ·11 to ·6. The excess of Diarrhœa, observed to have occurred on the East coast, is attributable to the prevalence of that disease in the ships stationed in the River Plate.

2. *North American and West Indian Station.*

The geographical extent of this station is from the Spanish Main to the coast of Labrador, containing within its limits regions differing widely in climate, soil, produce, and position; affording opportunities for renovating the health, and for refitting the ships, without encountering the formidable maladies which follow such operations in the tropics.

The following remarks by Dr. Bryson, with reference to the insalubrity of Port Royal, Jamaica, possess peculiar interest at this time, when that Island is suffering from the ravages of Cholera:—

> "There is not, it may be safely averred, any port or anchorage within the tropics, the history of which, if it could be fairly detailed, would furnish more important matter, as regards tropical fever, than Port Royal, Jamacia. Of all the places frequented by the squadron for a long series of years, it has been the most destructive to health and life. . ."

Dr. Bryson does not attribute this exclusively to the unhealthiness of the locality, but partly to the fatiguing nature of dockyard duties, performed under exposure, during the hottest part of the day; cleaning and refitting the ships; clearing out the holds, itself a dangerous employment, in proportion to the foulness of the holds, and the unhealthiness of the season. To these must be added intemperance, and reckless habits of indulgence. From these combined causes, however, the yearly reports show Port Royal to be the grand focus of fevers.

The characters of several other ports on this station, with reference to their salubrity, are briefly stated by Dr. Bryson. Barbadoes and Antigua, next to Jamaica, possess characters for insalubrity with respect to fevers, at least they rank thus among the Islands, although the ports on the Spanish Main, Vera Cruz, Belize, Chagres, and Santa Martha, are more unhealthy, their soil and climate being those which seem essential to the production of yellow fever.

The ratio of *Fever cases* in the Squadron on this Station was greater, by nearly one-fifth, during the seven years embraced in the present reports, than during the preceding period. This increase, however, does not arise out of greater prevalence of fevers in the West Indies, but from the exposure of the men to the malarious influences of the Lake districts of Canada, during the political disturbances in that colony.

The mean strength of the Squadron, during the seven years 1837 to 1843, was 25,516; the number of cases of intermittent fever 1,076, or 42·2 per 1,000 of mean strength; the mortality four out of the whole number. Of continued and remittent fevers there were 5,255 cases, or 205·9 per 1,000, with a mortality of 318, or 12·4 per 1,000. The total mortality from all diseases was 617, or 24·2 per 1,000. The average ratio of mortality from fevers of every description, for the seven years 1829 to 1836, was 52·9 per 1,000, while from 1837 to 1843, it was only 50·9 per 1,000.

3. *Mediterranean Station.*

This station, Dr. Bryson remarks, "is, from a variety of circumstances, by far the most important naval command: while its geographical extent is much less than that of any other foreign station, the force employed there has generally been much larger. It has also contained a much greater proportion of large vessels, or vessels of the line. The limits of the station not only extend in one direction from the Strait of Gibraltar, eastward to the extreme point of the Gulf of Scanderoon, and in another, from the Coasts of Africa and Asia, to the Southern Shores of Europe, comprehending the whole Mediterranean Sea, but they also stretch from the above Strait northward along the south-west coasts of Spain and Portugal to Lisbon."

The duty of the ships employed on this Station would necessarily depend much on the political or diplomatic events of the day; consequently the distribution of the men, and their exposure to climatorial influences, would be greatly modified. The permission granted to the men to land at the numerous ports in the Mediterranean has been the frequent occasion of bringing into action the causes of disease. Dr. Bryson apologises for, while he admits the excesses into which many seamen are betrayed on these occasions, as will be seen in the following extract from his remarks on this subject:—

> "Moreover, on these occasions, it is not their character to seek to hide certain faults or frailties, which, although inseparable from human nature, are apt to scandalize the more refined classes of society: while from their youth, the novelty, perhaps, of the scene, and the confidence inspired by numbers, they are led into the commission of numerous acts of eccentricity, if not of immorality, which the more staid landsman is not less prone to, although he may have the prudence and tact to keep them concealed."

There is much truth in these observations; but we trust that as the "schoolmaster" is to be found afloat as well as on shore, that these moral evils will considerably decrease.

Dr. Bryson traces much of these vicious indulgences to the daily serving out of spirits to the men. We look upon this practice as one of the abuses of alcohol. Its physical benefit would be in every way attained, if served in some other state of combination, or with more discretion and moderation.

We return, however, to Dr. Bryson's observations:—

> "Notwithstanding the salubrity of the climate of Malta, fevers are not unfrequently contracted there by men on liberty, but they have generally been referable to the cause already specified, together with imprudent exposure to the sun's rays, which are extremely powerful during the summer months; or, to the cold night wind, after over exertion. At Athens there are marshes, which are frequently productive both of remittent and intermittent fevers. At Gibraltar the same causes are productive of the same effects as at Malta. In the Ionian Islands are numerous marshes and lagoons of small extent, and there are seasons when, by the evolution of malaria, they give rise to fevers of considerable severity, both among the residents on shore, and the chance visitors in the harbour. The ports and shores of Asia Minor, together with the adjacent islands, have, however, been the chief sources whence the most fatal diseases have been derived."

Referring to the extensive series of tables for the diseases most prevalent in the Mediterranean Station, during the seven years, 1837 to 1843, we have reduced the following short summary from the tables given by Dr. Bryson:—

Mean Strength 69,555.

Diseases.	No. of Cases.	Ratio per 1000.	Dead	Ratio per 1000.
Intermittent fever	967	14·	8	·1
Remittent and continued fever	4,180	60·1	204	2·9
Inflammation of lungs and pleura	1,352	19·4	48	·7
„ „ Stomach and Bowels . .	108	1·6	10	·1
„ „ Liver .	255	3·7	14	·2
Rheumatism . .	4,725	67·9	15	·2
Hæmoptysis and Consumption .	388	5·6	132	1·9
Dysentery . . .	1,835	26·4	60	·9
Diarrhœa . . .	7,629	109·6	18	·3
Cholera. . . .	394	5·7	41	6·
Delirium Tremens	136	2·	15	·2
Syphilis . . .	2,293	33·	—	—
Gonorrhœa . .	1,634	23·5	—	—
Ulcer	6,208	89·3	7	·1
Catarrh. . . .	15,612	234·5	27	·4
Wounds and accidents . . .	17,249	248·	260	3·7

The ratio of mortality from all causes, which is greater during this period compared with that of the preceding, is as 14·3, to 11·1 per 1,000.

Dr. Bryson, in his general remarks on the statistics of this station, observes that this period, as compared with the preceding, shows fevers to have been of less frequent occurrence, although more fatal. These were chiefly contracted on the coast of Syria. In other parts of the station fevers generally have seldom been severe, except where the ships have touched at the coasts of Asia or Africa.

Inflammatory disorders were rather in excess, but were less fatal. Eruptive diseases, including plague, were less frequent by nearly one half. Cases of rheumatism were less by a fourth Catarrhal complaints, dysentery, and diarrhœa, exhibit a considerable increase, owing to the prevalence of influenza and cholera in 1837. But for the latter, the average mortality of the ships would have been much less than usual. This, however, is a general result of the prevalence of particular forms of disease, when usually other diseases become less frequent or less fatal.

The influenza is first noticed on board the Russell, anchored in the Tagus, in February 1837. "In the early part of March," Dr. Bryson states, "influenza attacked 280 of the ship's company of the Rodney, while she was on the South coast of Spain; the suddenness with which it fell upon them was very remarkable. During the two first days from its irruption, the seizures were at the rate of three men per hour. In May it reached Malta. In July it appeared at Corfu. With reference to the treatment of this epidemic, we quote Dr. Bryson's judicious practical remarks:—

> "Although the views entertained with regard to the morbid changes of the organs and tissues chiefly involved were nearly in all cases the same, still the means used to subdue diseased action, to prevent organic changes or death, differed very considerably, and, as has been already stated, afford a useful lesson, more particularly to those who are advocates for extreme measures. That venesection, and what is called the depletory system, was carried rather too far in several instances, is to be inferred from the success attending the opposite and palliative plans of treatment; the immediate results under the latter were at least equally satisfactory; in the more remote, there was this remarkable contrast, that those patients who came out of the disease without great physical prostration from the means used, recovered rapidly and satisfactorily; while those who have been subjected to an opposite plan of treatment, and who had lost much blood, recovered slowly and unsatisfactorily."

These facts are in conformity with what has since been seen of the epidemic in England.

The cholera appeared at Malta in June, having raged with great virulence at Naples. The first case occurred on board a Turkish corvette, anchored in the quarantine ground. The next case appeared on board the Hermes Steam Packet, recently arrived from England, and anchored near the Turkish vessel. The Rodney obtained a supply of water at Malta on the 30th of June; on the 1st of July a case of cholera occurred: she cruised off the coast of Sicily, where the cholera was then raging, "although this was not known in the squadron at the time;" the disease spread rapidly, ninety-four cases, and ten deaths, occurred. It disappeared about the end of September. The disease appeared, within the same period, on board several other ships that touched at Malta.

With reference to the origin of this disease, Dr. Bryson, after alluding to the opposite opinions which were entertained as to its mode of propagation, observes:—

> "It is, however, worthy of remark, that the vessels of the squadron escaped the disease, so long as they remained absent from the infected localities, and that with few exceptions they contracted it when they anchored near them; this more particularly applies to Malta, around which, contrary to what might have been expected, they continued to hover, while the disease was at its highest pitch of malignity."

Dr. Bryson observes that although it is extremely difficult to imagine that the cholera was not introduced into Malta by Neapolitan vessels, yet that in the whole of its progress through the island, no clear case of its communication, to any individual therein resident, occurred; but it has since been ascertained that many of the hospital residents suffered from diarrhœa, after the admission of cholera cases.

We conclude our notice of this report, by expressing our sense of the value of such documents, when as carefully compiled as this has been. Any defects which Dr. Bryson may detect, we feel assured that he will remedy in future reports. The medical officers of the Navy are, notwithstanding the disadvantageous circumstances in which a large class of them are placed, among the most zealous cultivators of science, and by the careful records of cases they contribute largely to the history of disease and its causes, and thereby to the general improvement of medical practice.

The Philosophy of Vital Motion. By CHARLES BLAND RADCLIFFE, M.B., &c., Lecturer on Vegetable Physiology and Botany at the Westminster Hospital, &c. &c. 8vo. pp. 158. London: Churchill. 1851.

THE law of the correlation of forces, as philosophically expounded by Mr. Grove, with reference to heat, light, chemical affinity, electricity, motion, and other physical agencies, is here traced by Dr. Radcliffe into the various movements of organised beings, which are thus found interpreting one another, and all referrible to one common cosmical law. By this law Dr. Radcliffe explains the phenomena of capillary circulation in plants and animals; the phenomena of muscular action, voluntary and involuntary; and a variety of other acts which, distinctive of life, are usually referred to a mysterious and incomprehensible vital essence.

Vital movements are arranged by the author under three heads:—"Under the first, are those which are seen in vessels and cells; under the second, all such movements as occur in the irritable tumors of the sensitive plant, in the coats of the alimentary canal, and in the voluntary muscles; and under the third, in the rhythmical beatings of the heart."

The first, or that of the vital movements seen in vessels and cells, is exemplified in the movements of the sap of plants, and by the phenomena of *cyclosis*, or the movements in the milk-vessels of plants. The influence of heat, light, and electricity, in the production of these phenomena, is shown; as, also, in the movements of the sap.

The second class of movements, in which the author expounds the operation of external physical agencies, is that of the vital movements in the vessels and cells of animal bodies.

In his third chapter Dr. Radcliffe treats of such vital movements as are seen in the irritable tumors of the sensitive plant, in the coats of the alimentary canal, and in voluntary muscles. In all these the author shows that contraction takes place as the consequence of the abstraction of force at certain points, rather than, as usually said, by the addition of a stimulus.

> "The spasm which is characteristic of ramollissement of the brain is an important argument against the idea that nervous influence determines a state of muscular contraction by the impartation (?) of a stimulus. In this disease there is atrophy of the cerebral substance, and partial paralysis of the sentient and motive energy; and therefore spasm, in so far as it may refer to the nervous system for its cause, must be supposed to be symptomatic of diminished, and not of exalted innervation."—p. 72.
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> "The grand and conclusive argument, however, in favour of this view, is to be found in the general spasm of the body which succeeds the departure of life. In this case the phenomenon cannot be owing to increased innervation, for it does not occur until all signs of activity are withdrawn."—p. 73.

The author cites other examples of the occurrence of convulsions, or spasms, in states of great prostration, *e. g.* typhus, cholera, &c.; while he points out, also, that the absence of a disposition to muscular contraction is a conspicuous phenomenon of the opposite conditions. These views Dr. Radcliffe tests by the phenomena of the electric influence on muscles; also, by the relation of light and chemical action to the phenomena of muscular action.

The action of the heart is shown to be subject to those laws which govern other mobile structures, and to afford proof of the same production of contraction by the abstraction of stimulus; the rhythm being the result of periodical variations in the supply of intra-organic force, the existence of which variations can be satisfactorily demonstrated.

The last chapter—"Of the action of mind in vital movements"—is an unanswerable and triumphant exposition of the truth, denied by some physiologists, of the independent existence of the mind. Dr. Radcliffe first adduces the proof afforded by memory, that the mental principle is a distinct and separate entity. In the consideration of this proof the author quotes several interesting and extraordinary instances of the power of memory. The imagination and other properties of the mind are also adduced by the author in illustration of this position.

The relation of mind to body is a question, as the author observes, "of great difficulty.", For a solution of this question, Dr. Radcliffe adds, "it is necessary to consult revelation as well as to examine nature." On the evidence of the nature of the connection between mind and body, and of the future state of both, as disclosed by revelation, the author's deductions are strictly legitimate, and, in our estimation, perfectly conclusive.

This work is closely allied to another* by the same author, which we brought under the notice of our readers not long ago. The conclusion from both is thus expressed: — "The faculties of movement, intelligence, and life, form a triune gift, which is immediately derived from 'Him in whom we live, and move, and have our being.'" The facts and arguments by which the author works out, or illustrates, the physical laws which control or impel living organisms, are full of physiological interest, and amply illustrate the law of the correlation of physical forces in animals as well as inanimate nature.

We very cordially recommend this book to the study of the physiologist, and the lover of simplicity and uniformity, as displayed in the wonders of creation, from the minutest animalcule or vegetable cell, up to the manifestations of the mental operations of the highest created intelligences.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

March 11, 1851.

Mr. Hodgson, President, in the Chair.

In addressing the meeting on this his first evening of office, Mr. Hodgson begged to offer the Society his warmest thanks for being placed in the chair; regarding it, as he did, one of the greatest honours which could be conferred upon him by his professional brethren, when he considered how many of the brightest ornaments to medical science had before occupied that position. Mr. Hodgson next stated the deep interest he had always felt in this Society, and referred to Mr. Abernethy, Dr. Young, Sir Astley Cooper, &c., being amongst its members: the recollection of this might be, he said, the cause of deep sorrow, if these eminent names were not replaced by some of the greatest ornaments of our profession. Mr. Hodgson then adverted to his having made the first catalogue of the Society's library; and regarded the position in which he was now placed as a compliment to the medical practitioners in the provinces—for he (Mr. Hodgson) still classed himself amongst them—and felt sure that all provincial practitioners would look upon this as a compliment and honour to themselves individually. He was, he said, about entering on his year of office with feelings of regret, when he compared himself with those gentlemen who preceded him: he would, however, endeavour to promote in every way the interests of this the most important Medical Society in the kingdom. In conclusion, he remarked that his duties were not entirely confined to that room, and begged to thank the Fellows of the Society for selecting the Council they had done, and trusted he would be enabled to state, at the end of the session, that this Society had not in any way diminished in the estimation of the profession; and again expressing his thanks for the position in which he had been placed, he requested that the business of the evening might be proceeded with.

An abstract of a paper by Dr. Ogier Ward—

On the Compression of the Fœtal Head during Birth, and its Immediate, Consecutive, and Remote Effects,

was read, of which the following were the main propositions:—That under all circumstances, almost without exception, the head of the child undergoes a change of shape during birth, from which it recovers, in the great majority of instances, immediately, from the elasticity of the bones, or from the effects of the first cries in producing determination of blood to the head. That in some cases the head retains its compressed shape for an indefinite period, during which time the child is apt to suffer from attacks of flatulence, convulsions, paralysis, and other cerebral affections. That there is reason to believe, from the observations of the author, that idiocy and insanity may also be produced by this deformity of the skull, and consequent compression of the brain, when it is not removed during childhood.* That the most efficacious made of relieving the brain from this pressure is to excite the cry of the child after birth, and thus, by causing distension of the cerebral vessels, to produce expansion of the cranial bones.

Thirteen cases were adduced in support of these propositions, of which four were instances of convulsions, one of symptoms of insanity, one of paralysis, that ceased when the head regained its form; and all suffered more than ordinarily from flatulence. In two of the four cases of convulsions, the fits came on several weeks after birth, and were followed immediately by the restoration of the head to its normal shape.

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* Proteus; or, the Law of Nature.

* The author refers to the writings of Dr. Copland and M. Foville in support of this hypothesis.

Some sketches were exhibited illustrative of the various kinds of deformity described in the paper.

Dr. Heale made a few short observations on the connection between compression of the brain and flatulence, and thought it not improbable that carbonic acid produced the latter by a process of compensation from the coats of the stomach.

Dr. Webster observed, as to the production of insanity by compression, that the tight cap worn by the Normans had occasioned a great increase of idiotcy amongst them; and he had seen great numbers of those cases. Dr. Webster asked Dr. Ward if he knew anything respecting the result of compression amongst the Esquimaux, it being customary for them also to compress the heads of their children.

Mr. Arnott said he should be glad to hear the opinion of some of the midwifery practitioners present on this question, and wished to ask whether, in consequence of pelvic deformity or uterine contractions, they had seen frequent cases of idiotcy.

Dr. Copland said that this subject had attracted his attention some years ago, and was described under the head "Cranium" in his Dictionary. There was (Dr. Copland said) one change not referable to the uterus, and he described it as a diamond-shaped head, oblique in two directions,—that is, one side of the head placed before the other, or one side higher than the other. During the past week he had seen a child, eighteen months old, with this diamond malformation, and remarked to the mother, on seeing the child, that it was the subject of convulsions, which (Dr. Copland said) proved to be the case. This deformity, he observed, is sometimes met with in epileptics after the age of puberty. In cases where one side of the head was raised above the other, paralysis usually resulted; and Dr. Copland thought that in such patients there was insufficient development of the brain. He considered this subject one of great importance, and expressed some surprise that the midwifery authorities would not give the results of their experience.

Mr. Cæsar Hawkins asked whether those deformities did not arise during pregnancy from pressure of the uterus; and said that he had seen two cases similar to those described by Dr. Copland, where the bones of the face participated in the deformity, and where the eye was displaced; but in neither of these children had there been any bad effects, and in both the eye was restored to its natural level with the other.

Dr. Lee said he had not intended to have addressed the meeting on the present occasion, but his impression was that compression of the head during labour would not account for the above symptoms. He (Dr. Lee) had seen a large number of cases, but did not recollect a single instance in which insanity had occurred. He further stated that large extravasations of blood were soon absorbed; that compression of the fœtal brain was often the cause of death where the forceps had been applied, and in those cases convulsions and inflammation follow; but he did not believe that any form of malformation resulted from compression during labour, and considered it impossible that compression before labour could effect it at all. The malformation, Dr. Lee said, begins long before labour comes on, and in such cases there is always some defect in the other organs.

Dr. Ward observed, in reply to Dr. Webster's observation respecting the Esquimaux, that amongst them cerebral congestion was a frequent consequence of compression. Amongst insane patients under Dr. Ward's care, one-half of the men and one-third of the women have deformed heads. Dr. Copland had described, in his work, two kinds of obliquity,—diamond horizontal obliquity, and that form in which one side of the head was raised above the other. The diagrams presented with his paper, Dr. Ward said, illustrated these deformities. He remarked that a curious circumstance connected with the oblique deformity was, that it had always occurred on the right side. In one case which he had seen, with the cheek more prominent on one side than on the other, the child had no convulsions; in another, similarly deformed, violent convulsions occurred shortly after birth. Dr. Ward appeared to consider that these deformities gradually disappearing after birth would lead to the conclusion that they were congenital. With regard to Dr. Lee's opinion that they were not produced by gestation, he (Dr. Ward) had not sufficient opportunity of judging; but Dr. Lee, he said, admitted that the compression resulting from the use of the forceps was a common cause of asphyxia and convulsions. As to these deformities not being produced by pressure, Dr. Ward inclined to the opinion that this abnormal condition disappearing soon after birth,—in some cases in days, in others in months or years,—would strengthen the conclusion given above, that these malformations were congenital. It was the opinion of Dr. Ward that the application of the twig of birch used as described in his paper, by causing the child to cry, and thereby producing more perfect respiratory action,—an increased volume of blood being brain, and filling the cranial cavity, — corrected the deformity and compression produced by the lapping of the bones.

Statement of a Case of Chylo-Serous Urine. By J. Pearce, M.D., H.E.I.C. Service, Bangalore. *With an Analysis of the Urine.* By J. E. Mayer, Esq., Madras Medical Service.

An Englishwoman, born in India, 22 years of age, the mother of three healthy children, had been nursing the youngest for ten months when first seen by the author, in March, 1850. For the last five months the urine had been pale and milky, sometimes forming a jelly on cooling; quantity of urine rather large. The same state of urine had been observed after her other confinements, and had ceased after weaning. On this occasion she was advised to wean the child when she first applied for advice, viz. five months after her confinement. She declined, however, and was put on a course of tonics with generous diet. This plan was continued for about two months, having been interrupted for a few days by a feverish attack. At the end of this time, no improvement having taken place, the patient removed to Bangalore, and then came under the observation of the author. The quantity of the urine was at this time moderate; it was milky, formed a jelly when cool, and coagulated on the addition of nitric acid. The child was now weaned, the tonic plan of treatment continued, and in about three months the patient returned to her family, considering herself well. The urine was less milky, did not coagulate on the addition of nitric acid, but still formed a jelly when allowed to stand for some time without being agitated.

The analysis of Mr. Mayer showed that no caseine, pus, or phosphates, were present, but that it contained albumen and an excess of fat; from which he infers that it is to "the presence of animal fat and albumen" that the milky appearance of the urine is attributable.

Dr. **Black** asked whether a case similar to the above was not brought before the Society last year by Dr. M'Intyre.

Dr. **Bence Jones** said the case of Dr. M'Intyre was one of mollities ossium, in which an unusual quantity of an albuminous substance passed off in the urine; whereas the case now brought forward was one in which fat existed in the urine, and which, he (Dr. Jones) considered, afforded an admirable instance of chylo-serous urine, showing whether milk was put in after the urine was evacuated, or whether fat existed in the fluid. Chylo-serous urine, he said, was soluble in ether, whereas feigned chylo-serous urine would not be acted on. Acetic acid does not act on real chylo-serous urine, but heat does so, which would not be the case where milk was mixed with it, but would merely form a scum on the surface. The chemical experiments, he remarked, which were performed in this case rendered it interesting as affording a means of diagnosis between the real and feigned variety.

Dr. J. **Arthur Wilson** mentioned the case of a woman, a patient of his, who had laboured under general anasarca, and passed a great quantity of chylo-serous urine, and who, previously to his seeing her, had been under the care of several medical men, and was treated with every description of diuretics, which did not appear to have had the least effect in checking this peculiar character of urine. This circumstance induced Dr. Wilson to leave the action of the kidneys alone, and he ordered the hot-air bath. The violent perspiration thus produced left the kidneys quiet, and caused the skin to take on a subsidiary action. The result of this treatment was most beneficial, the urine becoming clear and the anasarca subsiding. The treatment consisted of about twenty hot-air baths and some mild tonics, the object in view being to act upon the skin. She attended the hospital for some time afterwards as an out-patient, for the purpose of obtaining the baths: the œdema remained, but the chylo-serous urine had completely disappeared. He concluded his remarks by observing that in all such cases we should leave the diseased organ alone, and not impose on it double work, which principle, he considered, the case related by him fully bore out.

Dr. **Seth Thompson** inquired of Dr. Wilson whether he considered the case referred to by him (Dr. Wilson) a pure instance of chylo-serous urine, which being answered in the affirmative by Dr. Wilson, the meeting separated.

The next meeting was announced to take place on the 25th inst.

SURGICAL SOCIETY OF PARIS.

March 5, 1851.

Hypertrophy of the Prostate.

M. **Chassaignac** exhibited a specimen in which the anterior instead of the posterior segment of the prostate was the seat of hypertrophy.

Spontaneous Gangrene of a large Nævus.

M. **Cullerier** related the case of an infant having a nævus extending over the whole of the right lower extremity, and which had been completely removed by spreading gangrene of the surface. The child's health had continued perfectly good.

ACADEMY OF SCIENCES, PARIS.

March 4, 1851.

Umbilical Superfœtation.

Dr. Sulikouski, a physician at Jallancourt, transmitted the details of an interesting case of a girl aged fourteen years, who, when ten years old, had voided a quantity of liquid, in every respect resembling liquor amnii, through the umbilicus, which had spontaneously opened. At the age of fourteen her abdomen had increased in size, and was spontaneously ruptured, when a malformed fœtus was removed from the abdomen by Dr. Sulikouski. It had been adherent to the epiploon. The girl recovered her health after this spontaneous operation.

Hospital and Infirmary Reports.

GUY'S HOSPITAL.

By John Furse, M.R.C.S.L.

Acute Rheumatism—Endocarditis—Irritative Fever—Suppuration in the neighbourhood of the Wrist-joint—Phlebitis (?)—Death—Autopsy—Recent Pericarditis—Recent Fibrinous Vegetations upon the Mitral and Aortic Valves.

William Stagg, æt. 28, ill one month, a single man, residing at Bethnal Green, by occupation a porter, was admitted into the Clinical Ward, under Dr. Barlow's care, Jan. 15, 1851. In appearance he is a man of middle stature, dark hair and eyes, and of florid complexion. There is no evidence of any hereditary tendency to disease in his family, and he has never had rheumatism previously. States he has led a temperate life, and enjoyed general good health, until within the last month, when his illness commenced after getting damp feet. On his return home in the evening, he felt cold, and shivered; and, on the following morning, suffered from stiffness and pain in his limbs and joints, especially in his left shoulder. He took some laxative medicine, which relieved him for the time; but, as he did not improve, medical advice was procured: his febrile symptoms increased, with loss of appetite, and general debility, so that he has kept his bed ever since. Four days ago he complained of pain in his right forearm and right ankle: the forearm and wrist speedily became swollen and inflamed; and, on admission, he presented the following symptoms:—Flushed face, with a hot skin, though perspirable, the perspiration being of an acid character; he complained of pain in his right forearm, in the ankle of the same side, also in the left shoulder, and in most of the other large joints; the right forearm, wrist, and dorsal aspect of the hand, were enormously swollen, tense, and inflamed, the surfaces being of a bright red colour, yielding evidence of œdema on pressure, whilst the temperature was considerably raised; he complained of thirst, dryness about his lips and mouth; his tongue was moist at the edges and tip, but covered with a white fur in the centre; the chest, on being examined, yielded fair resonance on percussion, and the respiratory murmur was normal, but the respirations were somewhat quickened; the heart's action was quite regular, impulse natural, but there was a bruit most distinctly audible below and rather to the sternal side of the left nipple, remarkably superficial in its character, not confined to the situations of the valves, neither traceable in the course of the aorta, nor towards the axilla; his pulse was 96, soft and feeble; bowels quite regular; urine of a bright amber colour, having an acid reaction, rather small in quantity, sp. gr. 1080, and yielding no evidence of albumen by heat.—The swollen and inflamed wrist was ordered to be enveloped in cotton wool; the patient to take—Hydrarg. c. Cretâ, gr. iv.; Pulveris Rhei, gr. x. statim; Olei Ricini, ℥ss. post horas quatuor si opus fuerit. ℞ Potassæ Acetatis, ℈j.; Potassæ Nitratis, gr. v.; Misturæ Camphoræ, ℥j. ter die. ℞ Antim. Tart. gr. $\frac{1}{4}$; Pulveris Opii, gr. $\frac{1}{4}$; Hydrargyri Chloridi, gr. iss. nocte maneque.

16th.—He has passed a good night, having slept well. His bowels have been opened once by the medicine; the pain in his joints is somewhat relieved, whilst the œdema and redness over the right forearm is rather less. His pulse is 95, sharp, but easily compressible. At 1 p.m. he felt very sick, and vomited his dinner. The bruit was still distinctly audible, and he complained of dyspnœa and a sense of uneasiness over the region of the heart.—He was ordered Cucurbitulæ Cruentæ ad ℥iv. infra mammam sinistram.

17th.—The cupping has afforded him considerable relief; his pulse is rather softer than yesterday, but the skin is still hot, though perspirable. From this date he improved slightly up to the

20th.—When he complained of general weakness and aching pains in his limbs and joints, especially in the left shoulder and arm; his tongue was furred and rather dry in the centre, but moist and injected at the tip and edges; he felt parched and thirsty, with a hot skin; pulse 93, full, and rather bounding; the bowels have been moved. On examining the heart, there was a marked systolic blowing sound most distinct below the nipple, not traceable, however, up the aorta, but faintly audible towards the axilla; there was no evidence of any friction-sound.—Ordered Emplast Lyttæ regioni cordis. ℞ Pulveris Doveri, gr. x.; Hydrargyri Chloridi, gr. j. ter die.

21st.—The blister has risen well, but he remains much the same as yesterday; the skin being moist and perspirable; his urine was very high-coloured, sp. gr. 1028, and yielded an alkaline reaction, containing also a small quantity of mucus. Stimulants being now indicated, he was ordered Sherry Wine, ℥iv.; Arrowroot and Beef-tea, and a mixture composed of—Sodæ Sesquicarb., Tinct. Hyoscyami, Sp. Ammoniæ Aromat. aa. ♏xx., Aquæ Menthæ, ℥j. ter die; to repeat the powder night and morning.

22d.—The pains in his joints are less severe, except when he moves; but his hot and now dry skin, dry brown tongue, with general febrile symptoms, still continue; the pulse is increased to 108, very feeble and compressible; his respirations are hurried, being 30 per minute; a few small spots were discovered scattered over the surface of the abdomen, though not presenting any decided characters; the bruit is quite as distinct and audible in the same situation as before; the right arm and wrist still continue swollen and inflamed, yielding a somewhat boggy sensation, with an obscure sense of fluctuation.—Pergat.

23d.—The febrile symptoms are, if anything, increased; and, as fluctuation was now felt over the dorsum of the hand, tending to show that suppuration had taken place in the neighbourhood of the wrist-joint, Mr. Poland made an incision into the part, when some tolerably good-conditioned pus was evacuated. There was also evidence of an enlarged gland in the right axilla. He complained of increased pain in his right ankle, which was ordered to be poulticed. His skin was very hot and dry; tongue brown and fissured. He has expectorated, with slight cough, some tenacious mucus, streaked with blood. Small crepitation was audible at the base of the right lung in front, but he was too ill for his chest to be examined with care.—He was ordered Mist. Liq. Ammoniæ Acetatis Ammoniæ Sesquicarbonatis, gr. iv.; Tincturæ Opii, ♏v. sexta quaque horâ; to repeat the powder at night, and continue the wine.

24th.—He remained much in the same state; his bowels were freely opened during the day; the pain in the right hand and wrist was much relieved, and the discharge scanty.—To apply a poultice. Careful inquiry was made whether he had lately received any wound or blow in the right hand or fingers. The only evidence that could be obtained was that the patient had punctured his hand with a fish-bone some time previously.

25th.—Complains of increased pain in the right ankle, which felt very puffy; but no distinct evidence of fluctuation could be detected. His tongue was brown and harsh; skin hot and very dry when awake, but, directly he goes to sleep, bathed in perspiration, which yields an acid reaction; there is some comparative dulness over the right side of the chest, and small crepitation is audible at the end of a deep inspiration; whilst he expectorates a viscid greyish kind of sputa.—Ordered to repeat the pill without the calomel; et pergat.

27th.—This morning he seemed much weaker, the febrile symptoms being unabated: the right ankle remained very painful; his respirations were hurried, being thirty-three in a minute; his pulse 100, soft, and compressible.—Cataplas. Conii to be applied to the ankle-joint. ℞ Acidi Nitrici Hydrochlorici, ♏xv.; Tr. Cinchonæ Comp., ʒj.; ex Decocto Cinchonæ, ter die. ℞ Extracti Hyoscyami, gr. iv.; Camphoræ, gr. iss. ter die.

28th.—He continues to get weaker, and his answers are somewhat incoherent and confused. The opening which was made over the dorsal aspect of the right hand has now ceased discharging, without any healing action, whilst the integuments around have assumed a somewhat bluish discolouration. Respirations and pulse hurried as before.—To continue wine and nourishment, et pergat.

29th.—He appears very low this morning, and is evidently sinking: respirations more than forty per minute; pulse extremely rapid and feeble; skin bathed in perspiration; stools passed involuntarily; tongue very dry and brown: his breathing gradually became more difficult: he died at 4½ P.M.

Autopsy, twenty-two hours after death.

Chest.—On removing the sternum, the pleura of the right lung was found adherent to the costal pleura by old adhesions. The lung, on being cut into, was found to be congested. The left lung was emphysematous at the edges, and greatly congested; also some bronchitis of the large tubes.

On opening the pericardium there were indications of recent pericarditis, as evidenced by the character of the fluid contained in its cavity, being small in quantity, of a yellowish colour, greasy to the feel, with small flakes of lymph floating in it. On opening the heart, the right side was perfectly normal: both cavities contained a clot of blood; but on cutting into the left ventricle, five or six small vegetations, of a roughened, warty-looking exterior, and evidently recent, were seen attached to the mitral valve, especially along its margin. One smaller vegetation, of a somewhat granular character, was attached to the corpus arantii of one of the aortic valves; whilst additional evidence of recent inflammation was furnished by two of the semilunar valves having become adherent, and already slightly contracted, by a fibrinous effusion. On opening the left auricle, the auricular surface of the mitral valve was covered by vegetations of a similar character and larger size; whilst that portion of the lining membrane of the auricle directly opposite to the mitral valve was roughened and studded with vegetations of a similar character. On carefully examining these deposits they presented the ordinary characters of fibrine, having small clots of blood adherent to them.

Abdomen.—The liver was adherent to the capsule of the right kidney. Scattered over its surface, and entering slightly into its substance, were several small yellowish deposits of a fibrinous character. When cut into, the liver was pale, but presented a healthy structure. The gall-bladder was somewhat shrunk, and adherent to the transverse colon. Both kidneys presented a coarse structure, having several small fibrinous deposits upon their surface, and extending into their cortical structure, differing only in appearance from those in the liver by being surrounded by a dark line. The spleen was of large size, having similar deposits upon its surface. On opening the small intestines, Peyer's glands were enlarged, as were also the follicles generally in both large and small intestines. On making an incision across the dorsum of the hand, there was no appearance of pus, but a large coagulum of blood was discovered just under the skin: the clot was hard on its outer surface, and soft upon its inner. It extended from the outer side of the metacarpal bone of the little finger to that of the middle finger. Blood and serum were also effused over the whole dorsal aspect of the hand. The extensor tendon of the little finger had blood effused and coagulated around it: such a condition might have been caused by a blow. An incision was made into the ankle-joint: there was general serous infiltration into the tissues around the joint, but no purulent deposit.

Remarks.—This case presents several features of great interest for consideration, in reference to its diagnosis, pathology, and treatment. It must be regarded as one of those difficult cases occasionally met with where a disease of common occurrence, and in general easily recognised, is followed, or rather complicated and obscured, by the approach of another class of symptoms, indicative of an affection widely differing from the ordinary characters of acute rheumatism, but taking on several of the serious and unpromising symptoms of a disease which has been somewhat prevalent in the hospital of late—viz. phlebitis. It is also worthy of notice that a case presenting many of the symptoms of this disease occurred in the same ward only a short time previously. On reviewing the history, symptoms, and physical signs which the patient presented on his first admission into the hospital, no doubt could be entertained but that he was suffering from an attack of acute rheumatism, as evidenced by the heat, redness, pain, and swelling of the large joints; also by the acid odour of the perspiration, and a moist tongue, coated in the centre with a whitish fur,—these symptoms being coupled with the known cause,—viz. exposure to damp and cold,—and the commencement of the attack. There was also distinct evidence of cardiac mischief, as shown by the existence of a cardiac bruit, which was most distinct below the nipple. Judging from its apparently superficial character, its not being audible over the situation of the valves, neither traceable into the axilla nor in the course of the aorta, it seemed at first to be exocardial, but the distinct systolic blowing sound which was audible a few days after below the nipple, and traceable towards the axilla, strongly indicated that endocarditis was the chief disease; whilst, taking into consideration that the patient was now suffering from his first attack of rheumatism, and had never suffered from cardiac symptoms previously, it seemed highly probable that the affection was of recent date. The swelling and œdema in the right arm and wrist were from the first very great; whilst the redness assumed a much deeper and brighter tint than is usually observed in cases of acute rheumatism affecting the large joints: indeed, it presented some of the characters of phlegmonous inflammation, and probably would have been regarded as such, but for the rheumatic symptoms which existed, and the fact that other joints were implicated, though to a very much less extent.

On following out the progress of the

case, it will be observed, that on the seventh day after the patient's admission, the constitutional symptoms assumed a more serious aspect, and the ordinary characters of irritative fever began to manifest themselves, as evidenced by the dry brown tongue, the quick pulse, and the great prostration of the vital powers, tending strongly to indicate that the primary affection—the acute rheumatism—was modified by the introduction of some morbid poison into the system: a supposition which derived additional strength from the local condition of the right hand, the dorsal aspect of which at first yielded a boggy sensation to the touch, soon followed by evidence of fluctuation,—denoting that suppuration had taken place in the neighbourhood of the wrist-joint. It is true, the patient's previous history, taken on his admission into the hospital, did not favour any opinion of the introduction of a poison; but on more careful enquiry, after the evidence of suppuration had been proved, it was ascertained that slight local injury had been inflicted some time previously, from running a fish-bone into the hand; but the account given of this was so unsatisfactory, that whether it should really be assigned as a probable cause may admit of considerable doubt.

The plan of treatment pursued at the commencement of the disease was in accordance with that usually followed at Guy's, the chief indication being to arrest the progress of that most serious and frequent concomitant of acute rheumatism—inflammation of the lining or investing membranes of the heart. The want of power which the patient exhibited, even on admission, did not admit of that activity of treatment which one could have wished to pursue. Depletion was indicated, but required to be used with care; consequently it was limited to a cupping of four ounces over the region of the heart. A gentle laxative was administered. Salines were exhibited, and mercury was given in the form of calomel, combined with antimony and opium, the chief object being to get the system quickly under the influence of mercury, so as to prevent the effusion of lymph and promote the absorption of any that might have been already effused. Antimony acts beneficially by lessening the injecting force of the heart; whilst opium tends to allay pain and irritation, and at the same time prevents the calomel from running off by the bowels. Under this plan of treatment the patient went on as favourably as could be expected up to the fifth or sixth day, when his constitutional disturbance increased, and symptoms of irritative fever set in, indicating some fresh disturbance, and placing the patient in a most unfavourable condition for a happy termination. The probable cause having been discovered in the presence of suppuration over the dorsum of the hand, it was treated accordingly by an incision into the abscess and the evacuation of its contents. The constitutional treatment was now necessarily altered, the chief indication being to support the powers of the patient by wine, tonics, and frequent nourishment in the shape of arrow-root and beef-tea. The pain which he suffered in, and the puffiness which extended over, the right ankle-joint, rendered it probable that the ankle was also the seat of suppuration, tending still more in favour of the opinion that the patient was suffering from the irritative fever of phlebitis, the tendency of which disease to produce suppuration in different joints is well known; but fluctuation could not be detected in the ankle-joint, and there was no positive evidence to justify the conclusion that suppuration really existed, excepting the soft and somewhat pulpy feeling around; so that a conium poultice was applied for the purpose of relieving the pain.

The prognosis at the commencement of the disease was regarded as favourable; for it is not often that cardiac inflammation terminates fatally in the first attack when properly treated; but so soon as symptoms of irritative fever set in the prognosis became most unfavourable. The patient went on from bad to worse, his powers became reduced, and he speedily sank.

The autopsy was one of great interest, from affording an opportunity of clearing up some of the obscure points which were present during life. The evidence of pericarditis was decided, though slight, and of comparatively recent date, as shown by the greasy condition of the serum contained in the pericardium, also by the flakes of lymph floating in it. The existence of endocarditis, of longer standing and greater severity, was strongly marked. Two of the semilunar valves of the aorta were adherent at their edges by lymph which had been recently effused: they afforded a good specimen of the mode in which contractions and puckerings of the valves take place at the commencement.

The vegetations deposited upon the mitral and aortic valves also afforded additional evidence of inflammation. They must be regarded as morbid products of great pathological interest; for it is but occasionally that we have an opportunity of seeing them in so recent a state. The mitral valve was the chief seat of these deposits, both on its ventricular and auricular aspects, but attached almost entirely to the anterior curtain of the mitral valve, or that portion of the valve lying nearest to the aorta; in the present instance, the vegetations were of a somewhat warty character, varying in size from a pin's head to a pea, their exterior being irregular, and having small coagula of blood attached to them; whilst that portion of the lining membrane of the left auricle corresponding to the upper surface of the broad curtain of the mitral valve was roughened, and had deposits of a similar character attached to it. The vegetations upon the aortic valve were of small size, and quite of a granular character. When carefully examined, they presented the ordinary characters of fibrine, requiring to be handled with care, so as not to break them down. Judging from their appearance, they appeared to be from two to three weeks duration.

The question now remains to be answered—of what disease did the patient die? Of endocarditis and subsequent fibrinous deposits upon the valves, which were of so large a size as to prevent the closure of the valves, and must have interfered materially with the natural course of the current of blood? or did the patient die of irritative fever? But little doubt can be entertained, judging especially from the character of the symptoms in the latter stages of the disease, that the irritative fever was the cause of death; for the mode of death was not at all in accordance with what is usually observed in diseases of the heart. Dr. Barlow was of this opinion, and in his clinical remarks upon this case stated that it did not seem at all improbable the constitutional irritation had been kept up by the acute rheumatism, of which the cardiac inflammation was the result, and not of any phlebitic mischief, which seemed at one time probable, judging from the character of the associated local and general symptoms. Dr. Barlow remarked that blood diseases frequently give rise to disease of the heart, and that it is quite erroneous to believe that inflammation of the lining or investing membranes of the heart is always the result of acute rheumatism. This form of inflammation is not confined to the heart alone, but is frequently met with in the pleura and serous membranes of the brain. Thus, for example, it is well known that Bright's disease is frequently attended by inflammation of the serous membranes, including the endocardium. Dr. Barlow also stated his opinion that in rheumatic pericarditis there is very frequently more or less pleurisy; but that in idiopathic pericarditis there is in general no pleurisy.

Considerable doubt and difference of opinion prevail amongst pathologists regarding the formation of vegetations or fibrinous concretions upon the valves.

Laennec has given a description of the various stages through which these vegetations pass, from the period when they resemble an amorphous mass of fibrine precisely similar to that which is formed by a coagulum of blood, up to the time when they are traversed by vessels of their own, and seem to be an excrescence from the membrane on which they are situated.

Andral entertains a similar view of the formation of these vegetations, and divides the causes which influence their formation into two heads—first, owing to the blood becoming so modified as to have a constant tendency to coagulate in the interior of the heart; secondly, either from some obstruction at the orifices of the heart, or from the endocardium becoming irritated, leading to the effusion of a coating of lymph, which renders its surface rugged and uneven, thus favouring the deposition of blood whilst passing over it. The chief arguments upon which Andral bases his opinion in favour of the formation of these vegetations from the blood are, that their colour may partake of all the different shades which the blood presents on coagulating. Thus, for instance, they may be red, brown, yellow, or white: also that their degree of consistence is exceedingly variable, some being so hard and firm as to cut like fibrous tissue; whilst others are so soft as to flatten like tallow under the pressure of the fingers. But what Andral urges as the strongest argument is, that the vegetations not unfrequently present different degrees of consistence in different parts: in some, the blood is still fluid; in others, it is coagulated, but the coagulum is soft and coloured. A little farther on, the colouring matter disappears, and the fibrine alone remains, which in its turn becomes organized, or else degenerates into a soft, pulpy mass.

Bouillaud regards these vegetations, if not the direct, at least the indirect, product of inflammation; whilst Dr. Hope believed that they originate in some peculiar condition of the blood or particular constitution of the patient.

Dr. Hughes, in his valuable paper on Fibrinous Concretions in the Heart the Result of Inflammation, published in Vol. IV. of the Guy's Hospital Reports, divides them into two forms,—the warty, or as they are usually termed vegetations of the valves, and the amorphous: he considers that vegetations are always the direct or indirect result of inflammation or other disease of the endocardium. But although inflammation is the first step in the process of their formation, Dr. Hughes goes on to state it does not therefore follow that they are always its direct product, that they are secretions, or strictly speaking vegetations, any more than because phlebitis is the cause of the formation of a coagulum, does it follow that the inflamed vein has secreted the coagulum; so that Dr. Hughes gives as his opinion his belief that these vegetations or warty concretions are at least sometimes produced by coagulations of the blood upon the inflamed membrane; his reasons for adopting this opinion being that in endocarditis, as in other serous inflammations, the false membrane is generally spread over the affected surface in a uniform regular layer; varying in thickness and texture according to the duration and intensity of the disease, and (if of long standing) assuming the form of the lining membrane of the heart itself. This membrane, if carefully sought after, may sometimes (perhaps universally) be found below the vegetations, and pulled off the endocardium together with them. The inflamed surface is equally covered with this membrane, yet the vegetations are distributed irregularly over it, some portions being perfectly free, no ulceration being discoverable on those spots to which they are attached, and by the vessels of which they are supposed to be secreted. Though vegetations are certainly found upon the ruptured extremities of the tendinous cords, and the ulcerated edges of the valves, yet they generally extend far beyond the ruptured extremities, and often occupy only a small portion of the ulcerated edges, neither of which circumstances would probably occur, if simple exudation was the only source from which they were derived.

In the same paper Dr. Hughes alludes to a curious fact, to which he had not found a single exception, viz., that when the vegetations are attached to the surface of the valves, they are uniformly on that side opposed to the direct current of the blood; thus, for example, on the ventricular aspect of the semilunar valves, and over the auricular aspect of the mitral. As regards the causes of this Dr. Hughes states he has no plausible conjecture.

The truth of this observation was confirmed to some extent by the case previously recorded, in which the vegetations were very numerous, and of the largest size on the auricular surface of the mitral, whilst the lining membrane of the auricle immediately opposite was studded in a similar manner.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 13th March, 1851:—David Pestell Thomas, Ravenstone, Leicester—John Wright Baker, Derby—Thomas Plunket, Edinburgh—Martin Brydon Lamb, Forfar County—Johnson Martin, Lancashire.

Medical Intelligence.

ROYAL INFIRMARY FOR CONSUMPTION.

A **dinner** in aid of the funds of this charity took place recently, and was presided over by Mr. Hankey, jun., Deputy-Governor of the Bank of England. About 70 gentlemen assembled on the occasion, and subscriptions to the amount of £400, and upwards were announced by the treasurer. From the report it appears that the charity, which has been established 36 years, and is the oldest institution of the kind in London, has during its existence administered relief to 36,978 out and 486 in patients, the annual number of cases treated being more than 1,000. The annual festivals have, until now, been discontinued for a long time, and as the want of such charities is every day more and more felt, we trust the revival of an observance which once a year collects together all who are disposed to be supporters of so benevolent an object may prove the commencement of an extended career to usefulness and prosperity to the infirmary.

BEQUEST TO UNIVERSITY COLLEGE HOSPITAL

The committee have received notice from Mr. A. W. Penrose, executor of the late Mrs. Mary Petch, of St. John-street-road, of a legacy of £500, Three-and-a-Quarter per Cents., by the deceased lady to the charity.

THE AGES OF PHYSICIANS IN PRUSSIA.

Dr. Casper has estimated from the Prussian Medical Calendar for 1851, the ages of the physicians now living in that kingdom. The results he has obtained show the shortness of life among Prussian medical practitioners. Only one in a hundred has attained the age of seventy-four years. We extract the following table. The age of approbation, or "passing," is twenty-three.

Date of Approbation.	Number.	Present Age.
1786	1	87
1787	1	86
1789	1	84
1790	1	83
1797	5	76
1798	5	75
1799	6	74
1800	6	73
1801	12	72
1802	7	71
1803	6	70
1804	8	69

1805	17	68
1806	15	67
1807	14	66
1808	14	65
1809	12	64
1810	24	63
1811	24	62
1812	13	61
1813	14	60
1814	17	59
1815	29	58
1816	29	57
1817	52	56
1818	48	55
1819	52	54
1820	71	53
1821	60	52
1822	43	51
1823	42	50
1824	68	49
1825	63	48
1826	62	47
1827	59	46
1828	63	45
1829	75	44
1830	82	43
1831	81	42
1832	60	41
1833	71	40
1834	87	39
1835	70	38
1836	89	37
1837	137	36
1838	131	35
1839	118	34
1840	148	33
1841	147	32
1842	134	31
1843	159	30
1844	147	29
1845	150	28
1846	166	27
1847	184	26
1848	134	25
1849	118	24

The great number of young practitioners is at once apparent from this table; not less than one-third of the entire number being between twenty-four and twenty-nine years of age. Half of the number are between twenty-four and thirty-four. At the most mature age of manhood scarcely a fifth part are found to have survived, and not a sixth part reach the age of sixty. At and after this period the infirmities of age begin to be felt, and the more active duties of professional life, whether as regards practice or literature, are left to younger men. Hence the inferior character of many of the books and articles in journals, which are published at the present day.

[Such is Dr. Casper's statement, and he has editorial opportunity sufficient to enable him to form an opinion.] X

ST. GEORGE'S HOSPITAL.

Mr. Sergeant Thompson, one of the Treasurers of this Hospital, has presented to the Council of the Medical School, a splendid Silver Medal, the work of Mr. Wyon, to be given as a clinical prize to the most deserving pupil of St. George's Hospital. The medal on one side has the portrait of John Hunter, who in this Institution earned his lasting fame, and on the other the elevation of the Hospital.

The Council, through their Secretary, Mr. Gunning, have forwarded to Mr. Sergeant Thompson the following very appropriate answer:—

"The Council of Governors, acting by special appointment in charge and direction of the Medical School of St. George's Hospital, acknowledge with feelings of cordial thankfulness and respect, the communication from Mr. Serjeant Thompson, which it has been their pleasing duty this day to receive and consider.

"In the elaborate and beautiful work of art which Mr. Sergeant Thompson has placed at their disposal, to be given as a Prize Medal for clinical attainments to the most deserving student of medicine and surgery in the school of St. George's Hospital, the Council cannot fail to recognize the expression of a great educational truth, that the working interests of a public Hospital for the relief of the sick and maimed are of necessity associated with the moral discipline and practical opportunities of those who minister to the suffering poor within its walls,—that to the hospital physician, surgeon, and pupil, every ward is in truth a school,—every patient a true professor. In return for the confidence thus opportunely reposed in the pupils of St. George's Hospital by its enlightened Treasurer, the school council do not hesitate to express their confident hope, that under the impulse and encouragement afforded by this most timely and judicious gift, there will be, from year to year, in the future academic history of the Hospital, a constant and progressive development of every high professional faculty in the senior classes of clinical medicine and surgery.

"The Medical School Council, thus gratefully reminded by the forward energy of their colleague of their own important trust, may be permitted further to assure Mr. Sergeant Thompson, that their earnest, sedulous co-operation will never be wanting to give effect to his generous aspirations for the honour and welfare of the Hospital, expressed as they are in letter and design by the medal now within their keeping, which here, in the very birth place and crowning temple of his fame, sets forth for hopeful thought and use, the immortality of Hunter.

"*To Mr. Sergeant Thompson*,
"Governor and Joint Treasurer of
"St. George's Hospital."

⁂ It is stated that the die of the medal, which is now in the possession of the Council, cost 200 guineas.

OBITUARY.

On the 12th inst., at Bentinck-terrace Regent's-park, John James Bowie, M.D., late Assistant-Physician to the Hospital for Consumption, aged 31,

On Sunday last, at Green Royde, near Halifax, the residence of his mother-in-law, aged 37, James Inglis, Esq., M.D.

HOSPITAL FOR SICK CHILDREN—RESOLUTIONS PASSED AT THE RECENT MEETING.

"1st. That, as great and numerous evils are experienced by all classes of the community from the want of a hospital exclusively devoted to the reception and medical treatment of sick children, the formation of such an institution may be made, under the blessing of Almighty God, a means of relieving the sufferings of the poor, and of conferring important benefits upon society at large.

"2d. That this meeting do sanction the attempt made by a committee of noblemen and gentlemen to establish in London a hospital for sick children, having the threefold object of affording relief to the poor, of promoting the advancement of medical knowledge, and of training up women to be efficient children's nurses.

"3d. That, as the complete fulfilment of these objects cannot be attained except in a building of adequate size, and specially constructed for the purpose, funds be raised, and invested in the hands of trustees, under the name of the Children's Hospital Building Fund, the principal of which shall be allowed to accumulate until it amounts to a sum sufficient for the purchase of ground, and the erection of a suitable hospital; and that the Honourable A. Kinnaird, A. B. Hope, Esq., M.P., and John Labouchere, Esq., be appointed trustees of this fund; but that, in the meantime, a temporary hospital be opened for the reception of pattents as soon as possible, and that contributions be raised for its support.

"4th. That the rules now read be adopted as fundamental rules of this charity, and that the Provisional Committee be authorised to take the necessary steps for carrying them into effect; and that they be further empowered to nominate the first committees, and to appoint the first medical officers of the hospital."

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, Mar. 15.

BIRTHS.		DEATHS.	
Males....	770	Males....	684
Females..	763	Females..	717
	1533		1401

CAUSES OF DEATH.

ALL CAUSES	1401
SPECIFIED CAUSES	1396
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	383
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	55
2. Brain, Spinal Marrow, Nerves, and Senses	128
4. Heart and Bloodvessels..........	53
5. Lungs and organs of Respiration	352
6. Stomach, Liver, &c.	6
7. Diseases of the Kidneys, &c.	14
8. Childbirth, Diseases of Uterus, &c.	10
9. Rheumatism, Diseases of Bones, Joints, &c.	5
10. Skin...........................	3
11. Premature Birth	30
12. Old Age	74
13. Sudden Deaths..................	13
14. Violence, Privation, Cold, &c....	38

The following is a selection of the numbers of Deaths from the most important special causes

Small-pox..........	16	Convulsions.......	5
Measles............	29	Bronchitis	17
Scarlatina	16	Pneumonia	19
Hooping-cough	92	Phthisis	16
Diarrhœa...........	12	Lungs	1
Cholera............	1	Teething	1
Typhus.............	43	Stomach	
Dropsy	15	Liver..............	12
Hydrocephalus	47		
Apoplexy	90	Childbirth	1
Paralysis	90	Uterus	1

REMARKS.—The total number of deaths was 408 *above* the average mortality of the 11th week of *ten* previous years. This great surplus of mortality is chiefly due to the excessive fatality of diseases of the lungs and organs of respiration. These caused last week 352 deaths, while the average is 181.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·66
" " " Thermometer^a ...... 40·5
Self-registering do.^b .... Max. 53° Min. 29°

^a From 12 observations daily. ^b Sun.

RAIN, in inches, 1·61.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was nearly 4° *below* the mean of the month. The quantity of rain which fell was threefold more than the weekly average.

NOTICES TO CORRESPONDENTS.

A Subscriber of Ten Years.—We do not know. The information can be obtained only from a Government official.

We are compelled to postpone until next week the insertion of two letters which we have received in reference to the registration of the causes of death by medical practitioners.

The communications of Dr. Thompson, Mr. Paterson, Mr. Kesteven, Mr. C. S. Bate, and Mr. Rhind, are also postponed.

Lectures.

THE GULSTONIAN LECTURES
FOR 1851.

Delivered at the Royal College of Physicians.

By EDWARD LATHAM ORMEROD, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

II. PHYSICAL DIAGNOSIS OF VALVULAR DISEASE OF THE HEART.

Valvular Lesions distinguished by the position of Murmurs—Secondary importance of the intensity or tone of Murmurs, or of the measurements of the exact position of the Heart.

1. ***Organic Endocardial Murmurs—Distinctions between Tricuspid and Mitral Murmurs obscure—between Pulmonary and Aortic, practical utility of.—Direct Mitral—double Mitral—Bruit de rappel—Murmurs audible at a distance—Mechanism of Valvular Murmurs—of Murmurs not Valvular—Muscular Sound—Pericardial—Metallic Cliquetis—Purring Tremor, its Nature and Pathological Import.***
2. ***Functional Endocardial Murmurs—Fallacies of Cardiac Auscultation—corrected by Pathology—General and Local Causes of Murmurs to be distinguished—Abstract meaning of Murmurs always the same—the observation more often correct than its interpretation.***

IF the physical diagnosis of valvular murmurs had no higher object than the reference of each murmur to its proper seat, we might dismiss the subject in a few words. For the rules of diagnosis are clearly laid down, and when those can be applied, the diagnosis follows directly, as a plain inference. But in a higher point of view,—namely, as embracing the interpretation of such an inference, and forming the grounds of our prognosis,—the interest of the subject is as great as its importance and its difficulty. For it involves the *vexata quæstio* of the diagnosis of functional and organic affection of the heart; and, besides all the niceties of particular valvular diagnosis, the recognition of the effects of such valvular disease on the heart itself.

The fundamental law on which all diagnosis of the lesion of particular valves rests, is, that murmurs are heard loudest in certain parts, and propagated loudest in certain directions, according as they depend on lesions of different valves. When the time and position of a murmur can be exactly determined, its interpretation may be correctly made, according to established rules. Even if there be two or more murmurs coexisting in the heart of the same individual, so long as their time be determinable, and there be an appreciable distance between their positions of greatest intensity, this most complex case may be unravelled. This is not merely a statement handed on from one physician to another, but a fact of the truth of which any one may assure himself by careful observation in the wards and dead-house of any large hospital school. And it is most important that he should thus assure himself of it, for all the practice of cardiac auscultation hinges upon it.

While claiming the highest importance, in a diagnostic point of view, for the position, and next, for the time of murmurs, the information derived from the intensity or tone of murmurs must be entirely rejected, or received with great caution. For between these and the amount or character of the lesions on which the murmurs depend, there would appear to be no direct relation; in the former particular, indeed, the ratio is rather inverse.

As concerns the intensity of the abnormal sound, the loudest murmurs may be heard where there is no organic disease, and contrariwise, the amount of organic disease may be such as entirely to preclude the development of a murmur, either at the seat of such extreme disease, or lower down in the course of the circulation. And although a murmur ordinarily becomes feebler before it disappears, yet it does not certainly follow because it becomes feebler that therefore it is about to disappear, and that the valve is recovering itself.

So, again, with regard to the character of this sound, the loudest, shrillest, murmur may arise from anæmia; the softest blowing whisper may ensue from the passage of the blood through a rugged chink. And the same musical note may be heard, with all conceivable states of the valves, from an apparently healthy condition, up to rigid ossification of the parts. There are, then, no certain grounds for connecting the harsher murmurs with the more serious lesions, or for inferring from the diminution of the harshness, as before from that of the intensity of a murmur, that the valve is recovering itself.

It would be very desirable to have a code of signals, so to say, by which we might recognise particular forms of disease, or watch their daily progress. But certainly, neither the intensity nor the tone of the endocardial murmur can be safely trusted as furnishing any such. And, indeed, there is nothing more in our confessed inability to draw such practical inferences from these grounds, than what an abstract consideration of the premises would have led us to anticipate. Doubtless there is a cause for each modification of each sound; but analogy would lead us to look for this cause anywhere rather than in the nature of the walls of the aperture of sound. At least within certain limits.

For by varying the form of the aperture, or altering the mode of propulsion of the current of air, we can elicit a wide range of sounds from an instrument composed of almost anything capable of being thrown into sonorous vibrations at all. Or conversely, an equal variety may be elicited by varying the mode of propulsion of the current, or the length of the tube leading to or from the aperture, while the aperture itself remains unaltered. And the range we can obtain by either of these methods, on any instrument, as far as I know, exceeds, both in tone and pitch, the limits within which the variation of endocardial murmurs is found to occur.

The case, then, stands thus. Briefly, in Dr. Latham's* words, "Experience does not countenance the belief that the *kind* of endocardial murmur follows the *kind* of endocardial disease." Nor, abstractedly considered, and by analogy, have we any reason to think that it should. But, apart from all such general considerations, the daily, nay the hourly variations of the character of endocardial murmurs, in some cases, show that these differences of tone or pitch depend on some cause capable of rapid change, rather than on fixed organic disease. Probably, differences in the mode of the heart's contraction, or in that of the coaptation of the valves, are sufficient to explain all these varieties. Probably, from the fact that these temporary variations occur during the systole, and at the auriculo-ventricular valves. For where the form and mode of action of the parts is not so susceptible of physical modifications, as, for instance, during the diastole, and at the sigmoid valves, though we have the same range and variety of sounds, taking one case with another, yet these variations do not all occur in the same person. Under the circumstances supposed, the limits of the scale are much narrower.

The truth is so very obvious here, on a little reflection,† that it may seem almost trifling to have dwelt so long on exposing this source of fallacy. And it may seem to be throwing needless difficulties in the way, by thus parading all our weaknesses and shortcomings in the foreground. But we are still inclined to interpret before we understand, to take up with a plausible error rather than to rest in doubt, and so far in truth. As Thucydides* told us long ago, "Οὕτως ἀταλαίπωρος τοῖς πολλοῖς ἡ ζήτησις τῆς ἀληθείας, καὶ ἐπὶ τὰ ἑτοῖμα μᾶλλον τρέπονται." And our minds need, no less than our eyes, to be warned at each moment not to trust to what is intrinsically unsound, however specious.

The determination of the exact position of the heart in the thorax has lately occupied a good deal of attention; more, apparently, than the intrinsic importance of the subject could command. For the position of the heart is not so uniform in all cases, as that we need to inquire into the cause of each lesser deviation. The hand and the ear are the best guides to the relative or actual position of the heart, in the individual case; for they tell us not only the present situation of the heart, but the nature of the cause, if so it be, of its displacement. If we can neither feel the apex of the heart, nor ascertain the point of greatest intensity of the first or second sound, all accuracy of diagnosis is at an end. But if these can be made out, we want no further information, than what an ordinary knowledge of anatomy supplies, for our educated senses to explain the condition of the parts in their natural or altered relations.

But let me not be misunderstood as seeming to underrate the value of these researches, in confessing my own inability to apply their results to cardiac pathology; or, as judging of their applicability in other hands, and to other diseases, from what they have appeared to me in diseases of the heart. Whatever value may be assigned them, as contributions to practical medicine, it is impossible not to appreciate most highly the talent and industry with which the investigation has been conducted by Dr. Sibson,† who has placed our knowledge in these particulars on so much more sure a foundation.

Such is, I believe, a just estimate of the comparative value of the indications afforded by the time, situation, tone, and intensity, of murmurs presumed to be endocardial. Having thus generally glanced at these preliminaries, it remains to apply them to the more particular examination of some of the physical signs of valvular disease.

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* Op. cit. p. 51.

† Bouillaud has most happily expressed, in words which lose their force in a translation, the difference between the musical and the ordinary blowing murmurs. "Il y a la même différence qu'entre l'action de souffler et celle de siffler."—Mal. du Cœur, tom. i. p. 196, 2d. edit.

* De Bello Pelop. A. 20.

† MEDICAL GAZETTE, 1848; Prov. Med. and Surg. Trans. vol. xii.; Med. Chir. Trans. vol. xxxi.

Endocardial murmurs, distinguished according to their cause, are of two kinds,—organic and functional. On each of these there is something to be said. It is difficult to separate what are in nature so inextricably involved as these two subjects. It appears best, therefore, to speak of murmurs, in the first instance, in their probable relation to organic disease, and then to subjoin such considerations as diminish or destroy their pathological importance in particular cases, reducing them to the category of functional murmurs. And first of—

I. ORGANIC MURMURS.

It requires no particular skill, in an ordinary case, to determine whether a murmur be heard loudest at the base or the apex of the heart, and with the first or the second sound. But it is much more difficult to get beyond this, and to discriminate between the affections of the right and left valves respectively at these points.

There is no accurate unfailing rule by which we can always distinguish mitral from tricuspid murmurs, so short is the distance between the two points where these valves respectively give evidence of their imperfections. A forcible pulsation, with extended dulness to the right of the lower end of the sternum, combined with the general signs of venous obstruction, has sometimes, to my experience, correctly indicated the existence of functional imperfection of the right auriculo-ventricular valve. Andral* notices such an occurrence. But tricuspid regurgitation is said by those who have paid most attention to this subject to be rarely accompanied by a murmur.† The inference would be, that a murmur heard loudest at the apex of the heart is pretty surely referable to imperfection of the mitral valve. Assuming the correctness of this inference, still the determination of the exact situation of greatest intensity of murmurs heard loudest about the apex is important; for by this means we may usefully subdivide the mitral murmur itself. For, judging from the results of morbid anatomy and auscultation alike, there appears an important difference between auriculo-ventricular murmurs, according as they are heard at the very apex, or a little above it. Thus, a murmur heard loudest about an inch to the right of, and rather above the situation where the apex of the heart pulsates, may be a mitral or a tricuspid murmur; may depend on a fixed organic, or on a functional cause: it is, in fact, subject to all the fallacies of cardiac diagnosis. But a murmur heard loudest at the apex itself, and thence transmitted up the side of the chest to the left of the mamma, admits of much less doubt. With only one exception, I have never found this to depend on anything but organic disease of the mitral valve.*

At first sight the diagnosis of pulmonary from aortic murmurs might seem much more difficult than that of mitral from tricuspid murmurs. But it is not so. The best proof of its practicability is the fact that in the only three cases of disease of the pulmonary valves which have fallen under my knowledge, where the heart has been examined during life, a correct diagnosis has been made by three different observers. The valves themselves, it is true, are so very near to each other, that, by the examination of their region only, no accurate information could be obtained. But as the vessels diverge from each other, the signs referable to each may be examined separately at the distance of half the width of the chest, or even, in some cases, the vessels of the neck, and the ramifications† of the pulmonary artery in the lungs, may give their independent testimony to the easy practicability of the diagnosis. Most commonly, however, all that is attainable is the appreciation of the more superficial character of the sound over the valves themselves, and of its distinct propagation along a line from the sternal end of the third left intercostal space for two or three inches towards the middle of the left clavicle.

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* Clin. Méd. iii. p. 154.

† Dr. Blakiston on Diseases of the Chest, p. 226.

* I feel so sure of the fact, that I am averse to mixing it up with what may prove an erroneous explanation; but the following seems the most probable:—The chordæ tendineæ of the lesser flaps of the mitral valve are inserted, by means of their carneæ columnæ, more to the left, though, indeed, further from the apex than those which retain the larger flap on Lieutaud's valve. By the law that the signs of valvular lesion are transmitted loudest in the direction of the attachments of those valves, we might expect to find a difference according as one or other of the flaps of the mitral valve were affected: and hence it is fair to suppose that sound caused by regurgitation through the mitral orifice, being transmitted equally along all the chordæ tendineæ, will be equally audible about the attachments of them all; while sound produced only on the larger flap will pass down only its own chordæ tendineæ, and therefore be traced less distinctly to the left than in the former case. The murmurs, then, heard more to the left than usual, would, in this view, most likely be due to regurgitation. Those heard in the ordinary situation—that is, rather to the right of the apex—might arise either from this cause, or from the blood being thrown into vibration as it runs up into the aorta against the chordæ tendineæ, traversing the ventricle in that direction. In this last case there would be many chances against their being organic; in the former there would be everything in favour of such an explanation of their origin. But all this may or may not be the true explanation. The fact is as above stated.

† See Med.-Chir. Trans. vol. xxiii. p. 352; and on the whole of this subject, Ed. Med. and Surg. Journal, vol. lxv.

This, however, is quite sufficient for the diagnosis in those cases where the entire absence of the murmur from the course of the ascending aorta, or from a corresponding situation on the right side of the chest, clearly shows it not to have its existence in that vessel.*

The determination of the existence of a murmur in the pulmonary artery is, in fact, easy enough. The distinction, however, is not urged here merely as a refinement in the particular diagnosis of valvular lesions, but rather in relation to the most interesting, yet most obscure part of cardiac pathology—the distinction between functional and organic murmurs of the heart, to much of which I believe that this is the key. For, under these circumstances, a comparison of different observations—that is, of auscultation—tells us something more than that the murmur is here or there; practising the ear like intricate scales in music, but leading to nothing beyond. It tells us something of the cause of the murmur: for disease of the pulmonary valves is, so exceedingly rare, that in an enormous majority of cases we may certainly infer that pulmonary murmurs are independent of organic changes. The recognition of a murmur in this situation inclines to a favourable interpretation of all other murmurs in the particular case; for it renders probable the present active existence of a cause, other than organic disease, adequate to their explanation. At the same time, it supplies additional means for ascertaining the correctness of such an interpretation: for it increases the field of observation of the variation of murmurs. For instance: if a murmur be heard always at the base of the heart, the presumption is, that it depends on an abiding—to wit, an organic cause. But if, though always audible at the base, thus generally expressed, it be sometimes audible in the aorta only, and sometimes only in the pulmonary artery, the case is quite altered. All the doubt and anxiety which hang over the long continuance of an endocardial murmur are dispelled, when that murmur, as under such circumstances, is clearly shown to be independent of organic changes of the valves.

Without exploring the subject of probabilities to determine what is the exact diagnostic value of the fact of the recognition of a murmur in the pulmonary artery in relation to other co-existing murmurs in particular cases, it may be said, for all purposes of practice, to be very considerable. But it would be better for each one for himself to determine its just value, than to rely on any general inferences, where the consequences of an error may be so serious. It may appear very irrational to think one way and to act another; but however justly we may be assured that the frequency of affection of the heart in rheumatism is much overrated, still we are not justified in withholding the appropriate treatment from particular cases on the strength of such a belief. And this, too, though we may seem to hold the right clue in our hands: for the same process — namely, the rigorous investigation of the subject with the stethoscope and the scalpel, which assures us that the right valves are generally healthy—proves how very often the left are diseased.

The safe rule for practice, as applying to acute cases where the lesion appears to be progressive, is this:—A pulmonary murmur, if it be the only sign of endocardial lesion, may, under almost all circumstances, be disregarded: but when co-existing with an aortic or mitral murmur, its co-existence should not blind us to the possible importance of those other murmurs. It is true that the signs from the left valves may mean as little as those from the right, but they *may* mean much more; and in neglecting them we *may* be losing the favourable moment for treating organic disease.

Sinking, however, the use of the recognition of a pulmonary murmur to its lowest degree—that, namely, of giving us a hint often, and an assurance now and then, still, recollecting how obscure these cases often are, we may often turn it to the best account. Keeping within every limit of even the most superlative caution, still I believe the value of the recognition of murmurs in the pulmonary artery to be very great; and having for some years paid much attention to the subject, have found no reason to deviate from this opinion formerly expressed.*

It is scarcely possible to cultivate any part of a subject like practical medicine for any length of time without obtaining information, either in itself new, or as a new form of expression or confirmation of a recognized truth; and the practice of St. Bartholomew's Hospital seems to have supplied two or three instances of the latter in connection with the present inquiry. It appears better, on the present occasion, to regard our knowledge of the signs of valvular disease through this point of view, than to recapitulate what I will not merely say you already know, but what you have had a large share in originally discovering or establishing.

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* Dr. Latham notices the frequent occurrence of a murmur with such negative evidence of its being in the pulmonary artery in cases of phthisis. Op. cit. vol. i. p. 66. See, also, MED. GAZ. vol. xx. p. 9. Dr. Ogier Ward.

* Ed. Med. and Surg. Journal, vol. lxv. Two rheumatic cases there mentioned in the second table have since come under notice. In one the murmurs had all disappeared; in the other the apex murmur and the murmur in the lungs had disappeared, and the existence of a murmur at the base was very questionable. She was then, however, suffering from another attack of rheumatic fever.

One of the rarest of all morbid cardiac sounds is the direct mitral murmur; and its origin is attributed, as its name implies, to obstruction to the onward passage of the blood through the mitral orifice. Here is a case in point, showing the correctness of the general opinion:—

A woman, past middle age, was admitted with anasarca, and albuminuria, and bronchitis. Her heart for some time presented no abnormal sound, but about three or four days before her death a murmur was audible with the second sound at the apex. On examination of the body after death, the left ventricle was found dilated; and at a short distance beneath the ring of the mitral valve, with its edge projecting into the onward stream of blood, there was a large coagulum adherent. It was evidently some days old; it had the form of an obliquely-truncated cone, and the upper edge presented to the stream of blood an angle of about forty degrees. In connection with a severe attack of neuralgia which she had suffered from three years before in the right leg, it is of interest to notice, in passing, the existence of a few cartilaginous flakes on the posterior roots of the nerves on the same side of the lower end of the spinal cord.

This single diastolic murmur at the apex is exceedingly rare. I never met with more than one other instance of it. But a double murmur has been recognised at the apex in eighteen cases. Out of these eighteen cases only four are known to have died,—one during the period of observation, and three at subsequent periods. Eleven of them left the hospital much relieved. If, in the absence of more certain data, and of the observation of single cases watched through the whole course of their disease, it be allowable to infer from the greater frequency of murmurs at one period of a disease than at another, a very curious conclusion follows with regard to the murmur under consideration. For, on these grounds, it appears to be a more common sign at some distance from the fatal period than during the disturbance of the heart's action which more immediately precedes death: since, out of many scores of observations, in only this one has the double murmur been heard about the period of dissolution.

The lesion on which this combination depends would seem, however, to be very serious, judging from the symptoms. And in the only dissection which has been obtained, two years subsequent to the last auscultation, the amount of the changes was certainly very striking. This patient had annular contraction and thickening of the mitral and tricuspid valves in the most extreme degree.

The singularity of any sign is scarcely a sufficient cause for detaining us on the present occasion. So the reduplication of the first sound at the apex,* which Bouillaud has denominated the *bruit de rappel*, claims here only a passing mention, and this only lest it should be confounded with the double murmur at the apex, just noticed, to which it bears so close a resemblance. The distinction, however, is important rather in theory than in practice; for my own more limited experience agrees with that of Bouillaud in connecting it, like the murmur last noticed, with extensive disorganization of the heart. Still, as depending rather on the hypertrophy which that disorganization has induced, than on the cause of the hypertrophy, it is in so far a sign of less importance than is the double valvular murmur at the apex above described.†

We need some better term for it than that in common use, namely, the reduplicated first sound.‡ The French name is much more expressive.

Sometimes an endocardial murmur may be heard by the patient himself or by other persons at a considerable distance from his body. The most probable explanation is that suggested by Laennec,§ who connects this phenomenon with the accidental circumstance of the vessel where the murmur originates lying in the neighbourhood of a cavity full of air. This is the generally received opinion; and it was well borne out by the most striking case of this kind which has come under my own observation. In connection with a murmur audible at a considerable distance from the patient, a large aneurism was found immediately over the bifurcation of the trachea. Cases, however, are continually occurring where no such disposition of neighbouring parts is found to explain this peculiarity of the murmur.

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* Bouillaud, Des Maladies du Cœur, tom. i. p. 218.

† Dr. Williams "has heard it sometimes where there was no reason to suspect permanent lesion, but where the action of the heart was languid." —Diseases of the Chest, p. 211, 4th ed.

‡ Sometimes the second sound is reduplicated over the sigmoid valve: apparently from the time of closure of the aortic and pulmonary valves not exactly coinciding.

§ Ans. Méd. tome iii. p. 133. Dr. Abercrombie, Ed. Med. Chir. Trans. vol. i. p. 48, mentions a curious circumstance, which was noticed in one of his patients, of interest in relation to this subject. "He attempts to relieve his uneasiness by frequent and very deep inspirations..... While the lungs are inflated in the state of full inspiration, a sound is heard by himself, and by a person sitting near him, exactly resembling the loud tick of a watch: it corresponds in frequency with the frequency of the pulse, and is only heard while the lungs are fully inflated; but it continues to be heard as long as he keeps them inflated, by resting upon the deep inspiration."

It would seem that the most definite meaning which we can attach to this peculiarity of being audible at a distance from the chest, relates more to the situation than to the cause of the murmur. In this way, though it gives no fixed grounds for modifying the prognosis of the cases in which it occurs, yet, as regards diagnosis, its recognition might be useful. For, recollecting that a stomach distended with air may conduce, just as well as the trachea or bronchi, by its proximity, to the manifestation of this peculiar sign, we may look here for an explanation of the cardiac symptoms which sometimes accompany an attack of dyspepsia. For, the same cause which, by distending the stomach, disturbs the heart's action and causes the murmur, may also make the murmur audible at a distance from the patient. But in illustration of this I have not at command a case sufficiently in point to offer to your notice.

The study of the exact mechanism of abnormal murmurs is one of exceeding beauty and interest, though it must be confessed that it is wholly inapplicable to treatment. Why these murmurs should come and go, what are the causes of their variety, why in this the stress should rest on the beginning, in that on the end, are all questions which arise so often, that, out of sheer curiosity, to rank the feeling no higher, one is very anxious to have a satisfactory solution of them. A means of imitating, after death, the exact mode of play of the mitral valve during life is here the great desideratum. For there is reason to think that many of the varieties of particular cases may arise from peculiarities in the form of the lesion, rendering this valve (in relation to which the varieties most often occur) inefficient at particular stages of its action. Some of these differences, however, admit of explanation.

The commonest, and probably the most important defect in the mitral valve, is where the edges do not fit after the valve is shut to; and where, consequently, regurgitation takes place through the aperture during the contraction of the ventricle till the complete obliteration of its cavity. A murmur indicating this condition, however arising, whether from thickening or perforation of the valve itself or from shortening of its chordæ tendineæ, begins suddenly with the first sound, and fades gradually until the occurrence of the second sound, which coincides with the cessation of the contraction of the ventricle. But sometimes the murmur at the apex, instead of suddenly rising to its maximum of intensity and gradually declining, rises less abruptly, but suddenly falls with a smart click and jerk sensible to the hand all over the cardiac region. From careful examination, it appears that this click and jerk are really the termination of the first sound, which the murmur accompanies, but does not follow. It may hence be inferred that regurgitation takes place with a murmur through the mitral aperture until the walls of the ventricle have approximated so that the edges of the valve can meet. The valve, being in itself sound and efficient, now precludes all regurgitation, and checks the stream suddenly, thus sending back an impulse nearly equal to that of the contraction of the left ventricle, only more sudden; similar to what we may produce by suddenly checking the flow of a stream of water or air through a tube.

It may here be objected, by those who only care to establish the fact that there is disease of the heart in a particular case, that this is a useless refinement. And the force of the objection could not be denied, were this refinement the only object attainable. But, with time to observe, and an unlimited field of observation, the interest of solving one of these problems is very great. And the ear, taught in this difficult and complicated inquiry, finds itself more perfectly at ease among the ordinary incidents of daily practice, where more important results than the solution of curious problems hang on its accurate perceptions: "For it breeds great perfection if the practice be harder than the use." I cannot meet this objection in more forcible words than those of Dr. Elliotson on the same subject.* "To condemn accurate diagnosis is to condemn accurate knowledge,—to rest satisfied with imperfect information, when industry would give us more, is to admire ignorance when knowledge is within our reach."

By thus accurately determining when and where murmurs are loudest, and the character and history, so to say (though the history be that of less than half a second of time), of each murmur, we learn to separate several sounds from the category of indications of valvular disease. It appears worth while to notice a few of those of most common occurrence in practice. Such are the muscular murmur, if it be correctly thus designated, the pericardial murmur, and metallic cliquetis. And to these have been subjoined a few remarks on purring tremor in its relation to organic disease, anticipating as little as might be the observations which this sign seems to require in relation to functional murmurs.

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* Lumleian Lectures, p. 5.

1. *Muscular sound.*—Sometimes a systolic murmur may be heard with equal intensity over the region of the ventricles, which is not transmitted at all along the great vessels, as its loudness, even up to the base, would have led us to expect. A closer examination of this murmur confirms the inference which would follow from the above particulars. It has no abrupt beginning or ending, its time coincides exactly with that of the contraction of the heart; and the sound is so like that of muscular contraction, that it is impossible, on all these grounds, not to believe it to have its seat really in the muscular structure of the heart. Why it should be audible only in some hearts, and only for a limited time, is not clear. But as occurring in patients who are the subjects of acute rheumatism, it is important to separate it from their valvular murmurs, which are of longer continuance and more serious importance. Be it muscular or not, it is worth while to distinguish it from the admitted endocardial murmurs, if only for the reason that it goes away and leaves the heart, in all its functional, and, for what I have been able to learn, in all its organic integrity.

2. *Pericardial murmur.*—There is another murmur which, by careful observation, may be shown not to be valvular but pericardial. The anatomical history of the white spots so often seen on the pericardium has been satisfactorily made out. Mr. Paget has adduced proof of the correctness of the common opinion, that they are generally the result of previous inflammation.* But their clinical history is still incomplete.† Of the white spots themselves I have nothing to say; but, with regard to the pericardial adhesions about the base of the heart, on which their correct interpretation depends, a few cases worthy of notice have come under my observation. In some patients a simple systolic murmur, of the character of a friction sound, has been audible over the first part of the pulmonary artery for several days in succession. These were generally the subjects of acute rheumatism,—women, and anæmic. Was this seeming friction sound really the sign of the existence of this limited pericarditis? I think it was; but death so rarely occurs during the progress of acute rheumatism, that I have been unable to obtain actual demonstration of the fact. The following case, however, seems in point:—

Sarah Emmet, aged 13, a large, overgrown girl, came into St. Bartholomew's Hospital, in April 1845, with acute rheumatism and endocarditis. On the second day after admission she is described as having a harsh systolic murmur all over the region of the heart, most audible at the base, and about the third left costal cartilage, of a rustling character, but nowhere double. The systolic murmur at the apex, first heard two days before, continued unchanged. There was extended dulness on percussion over the region of the heart.

During the course of the next month, while she remained under observation, frequent examinations of her chest were made. The harsh dry sound moved a little; being for three weeks most audible at the junction of the fourth left cartilage with the sternum, from which point it disappeared at the end of that period. The notes preserved always carefully distinguish it from a soft blowing murmur which during this period manifested itself in the aorta and pulmonary artery. She was discharged five weeks after this, having escaped with difficulty from a severe attack of intercurrent pleuropneumonia; and this sound remained then unexplained.

In three months more she returned, the symptoms of anæmia being now exchanged for those of valvular disease. She gradually sank. Her friends, fearing she would die, and her body be examined, removed her from the hospital. Just then pericarditis came on, and a loud double friction-sound was audible all over the region of the heart, save in that part only where, on the previous occasion, we had so long heard the dry systolic murmur.

Probably the two surfaces of the pericardium were thus far either adherent, or, if not adherent, prevented by thickening, consequent on the former attack of inflammation, from so readily taking on inflammatory action; but the matter still needs to be elucidated by dissection.* The question is one, if not of importance, at least of frequent occurrence; and it is of especial interest with regard to a subject previously under discussion—namely, the diagnosis of pulmonary murmurs. The real difficulty lies rather in their discrimination from such circumscribed pericardial than from aortic murmurs.

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* Med.-Chir. Trans. xxiii. p. 29.

† Three of Dr. Blakiston's cases contribute to supply this deficiency: cases 52, 43, and 50.

* My friend Dr. Kirkes has been led to infer, from the rarity of adhesion of the pericardium in his dissections, contrasting with the frequency of the occurrence of the signs of pericarditis during life, that general adhesion is not the ordinary termination of general pericarditis. I cannot but think that some contingent circumstance has reduced the number of cases of adherent pericardium below the average during the time to which this inference alludes; for, during some years' observation in the same field, the number of adherent pericardiums bore as high a ratio to the number of cases of pericarditis as did any other organic lesion discovered after death to its symptoms noticed during life. But while advocating the opinion commonly received, that the ordinary termination of general pericarditis is by adhesion and obliteration of the cavity, we must admit the occasional occurrence of very striking exceptions to this rule. Dr. Kirkes mentions one such in his paper, MEDICAL GAZETTE, vol. xlv. p. 561.

3. *Metallic cliquetis.*—Occasionally there may be heard over the region of the heart a very peculiar sound, to which the name of metallic cliquetis, or tinnitus, or costal percussion, has been applied. In the interpretation expressed by the use of the last appellation both Hope* and Bouillaud† agree, and Hope gives some details explanatory of the mode in which the sound appears to him to be produced. Laennec‡ explains the occurrence of this sound in the same way by costal percussion—"When the heart, beating in a sharp and rapid manner, though without any really forcible impulse, the apex only comes to strike the walls of the chest." Now, obviously, this explanation is somewhat shaken by the fact that this peculiar sound —which there can be no question about, for any one may produce it quite pure for himself in the way specified by each of these observers§—is not always audible at the apex in cases where it may be heard at the base of the heart. Dr. Hope correctly remarks that thin nervous persons are the most common subjects of it, but they are not exclusively so; and this fact again impairs the general applicability of the details of his explanation. The sound may be, and I believe is, trivial, and almost wholly unimportant; but, for all that, we need not accept a wrong or an unduly limited explanation.

I have met with it under four different conditions:—First, in nervous anæmic subjects, when the action of the heart was sharp; secondly, with more violent action of the heart, under circumstances which have led me erroneously to conclude, from the third condition with which I have less frequently found it connected, that it was indicative of the commencement of pericarditis. The fourth condition with which it has been found connected is a rough, almost scaly, state of the pericardium about the base of the heart; and perhaps a fifth might be subjoined, but for the fact that it is not always constant under these circumstances—namely, adhesion of the pericardium, with which we may class the occurrence of this sound over an aneurism. Dr. Latham tells me that he frequently meets with it in children, in whom he has noticed that it may be entirely suspended by a little pressure on the walls of the chest.

What should be the conclusion from these facts? The explanation by costal percussion is insufficient: it does not take in all the cases. The explanation by affection of the pericardium again is insufficient; certain as far as it goes:* yet there is positive proof, in the continuance of the sound after the two surfaces of the pericardium have become adherent, that the explanation does not go all the way. There are, then, three explanations of the mode of production of this sound—namely, costal percussion, friction of free surfaces, and movement of connecting areolar tissue. Each probably applies to a limited number of cases. There does not appear to be any one general explanation; nor, considering the nature of the sound, ought we perhaps to look for one.

4. *Purring tremor* is a sign which naturally attracts much attention. Really, it means little more than any valvular murmur heard under similar circumstances.† It is important, therefore, to dwell on all the facts which detract from its value as a certain evidence of irreparable organic disease.

Purring tremor may be produced either by the action of causes wholly external to the blood-vessels, or by abnormal conditions, organic or functional, of the blood-vessels themselves; or, lastly, by changes in the composition of the blood. Pericarditis occasionally furnishes an instance of the first kind. With this, however, beyond the mention, we have here nothing to do; the altered conditions of the blood, and its containing vessels, alone falling within the scope of the present remarks.

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* Op. cit. pp. 41, 602.

† Œuv. cit. tome i. p. 218.

‡ Tome iii. p. 105.

§ By laying the palm of the hand over the ear, and lightly tapping the back of the hand with a finger.

* This interpretation is favoured by three of Bouillaud's cases (28, 30, 73), where metallic cliquetis was noticed in connection with traces of inflammation of the pericardium discovered after death.

† Opinions are at variance on this matter. Dr. Hope (Diseases of the Heart, p. 126) says that "he had never known tremor to exist in the heart independent of organic causes." Bouillaud (Mal. du Cœur, tome i. p. 189) takes the opposite view. Laennec (Aus. Méd. tome iii. pp. 128, 130) says that he has frequently noticed its occurrence without there being any organic affection of the heart, and quotes a case where the tremor was produced by a simple change of position. And Andral (Œuv. cit. note, pp. 128-5), while he cautions us about accepting Laennec's statement, and maintains an opposite opinion, quotes a case where this sign depended on at least a removable cause. Dr. Graves (Clin. Med. p. 926, 1st edit.) gives the particulars of a very striking case, where the tremor apeared to be independent of organic change. My own experience is to the effect that this sign is usually manifested in the most severe cases of cardiac disease, but that it does not infallibly indicate the existence of such disease. The three most striking cases of this kind that I can recollect presented in two cases dilatation of the right auricle, while in the third the auscultatory signs of cardiac lesion were removed, and I believe that no organic disease of the heart or vessels ever existed in this patient.

It appears that purring tremor may be produced immediately in healthy animals by large depletion.* It might be referred, under such circumstances, to imperfect distension of the vessels. This tremor, however, thus produced, not only continues, but increases in intensity in the course of a short time: but we know, from Dr. G. O. Rees' observations,† that the quantity of blood abstracted by venesection is rapidly replaced by absorption of water. We must therefore consider extreme attenuation of the blood as at least as powerful a predisposing cause of this sign as an imperfect distension of the blood-vessels can be. Certainly it is a cause in more durable, and probably in more frequent operation.

Now, obviously, no fluid could communicate this sensation to our ears or hands when perfectly at rest. We can admit the attenuation of the blood only as a predisposing cause of purring tremor. We look for the exciting or proximate cause in the movements of the circulation. In the experiments just alluded to the tremor was produced in healthy animals. Applying this to practice, even if all clinical experience were opposed to the statement (which it is not), we must admit that purring tremor does not necessarily imply the existence of organic disease of the blood-vessels, but that the movements of, or induced by, healthy circulating organs are capable of producing it in a subject so predisposed. We must admit that blood attenuated to a certain degree is capable of being thrown into vibration—to use this more general expression—by causes insufficient to affect healthy blood after such a manner—namely, by the ordinary movements of the circulation: but it requires unnatural agitation to throw normally-constituted blood into such a state of vibration; and, more than this, it is required that the fluid pressure shall be less at the point where the vibration manifests itself than elsewhere.‡

Both these requisite conditions of the circulating fluid are found under the circumstances where purring tremor is usually produced. The contracted aortic opening, for instance, does not allow of the immediate equalisation of pressure of the blood in the ventricle and in the aorta; and the same physical impediment which causes this, causes also unnatural disturbance of the current of the circulation. So it is also in many cases of mitral, or more especially tricuspid regurgitation, where the blood runs under pressure from the ventricle into the dilated and nearly fully distended auricle. So, again, these conditions are present in an aneurismal varix; the opening from the artery into the vein supplying the means whereby the current of the circulation is disturbed, and the fluid pressure is rendered unequal.

On such principles the occurrence of purring tremor under certain circumstances may be explained. But why is it not always found under these circumstances? Why, for instance, does it not occur always with sigmoid regurgitation, or, indeed, during the filling of the ventricles of the healthy heart? A very sufficient answer lies in the fact that, under ordinary circumstances, the blood is not in a condition to be thrown into such a state of vibration by those movements. But, apart from this, I think that these apparent exceptions illustrate a very important point in the explanation of the mode of production of purring tremor, on which it will be of interest briefly to dwell.

In both these instances one condition of the containing vessels is wanting. Regarding the purring tremor simply as a vibration, whether of the blood, or vessels, or both, obviously some degree of tension of the parts concerned is requisite for its manifestation. Nothing moving in one direction only can be, in so far, in a state of vibration; and the force being, in the case supposed, exerted in one direction only, a certain degree of tension or elasticity of the parts is required to ensure alternate motion and vibration. This condition is wanting in the cases under examination; for such regurgitant or direct stream, as the case may be, flows not into a cavity whose walls are at this degree of tension, but into a loose yielding bag, as it were; and, under ordinary circumstances, as soon as the walls of this cavity have acquired that degree of tension, the currents are interrupted or reversed by the regular movements of the heart.

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* Hope on Diseases of the Heart, p. 100, 3d edition.

† Gulstonian Lectures, MEDICAL GAZETTE, 1845, p. 851.

‡ We are indebted to Dr. Corrigan (Dublin Journal, vols. x. and xiv.) for a very clear explanation of the mode of production of this curious phenomenon. Of the correctness of the principle advocated any one may easily satisfy himself, by repeating the very simple experiments by which Dr. Corrigan supports his theory. A tube of metal, or animal membrane, through which a stream of water is running, is to be constricted at one point, so that the egress of the fluid from the lower portion of the tube may be freer than its ingress. In the previously silent stream of fluid, now, below this point, a loud murmur with purring tremor will become manifest. Constrict the tube in a second place, at a lower point, and the murmur and the tremor will both cease over the interspace, as soon as the equilibrium of pressure shall have been restored on each side of the point first constricted.

In the same able essays Dr. Corrigan enters very particularly into the conditions requisite for the production of a murmur. But in all diffidence I must here venture to withhold such complete assent to his conclusions. The theory does not appear to me so beautifully and closely applicable to murmurs, as to purring tremor. At least the conviction of its truth is not so forcibly impressed by the examination of each case of endocardial murmur, as it is by that of each case of purring tremor. Probably, as Dr. Williams (Dis. Chest, p. 217) remarks, the flaccid tube only receives the sound or tremor from the point of stricture, as the tube of a trumpet does that from the lips. It is an instrument necessary for the manifestation of the grosser sign, the tremor, but not for that of the more delicate sign, the murmur.

An instance occurs now and then clearly showing that the rule which has been proved for simple tubes does apply to the complex arrangements and action of the heart; and enough is generally found on dissection to explain why the purring tremor should have been perceptible at some one given point in particular cases: but it is commonly very difficult to ascertain why it should have been perceptible only at one, and why particularly at that one point. Perhaps the above considerations may tend in some measure to remove that difficulty. Probably, too, the direction in which sounds connected with lesion of particular parts have a tendency to be propagated, is an important element in the explanation of each individual case; for there is no reason to doubt that purring tremor, in this respect, obeys the same laws as valvular murmurs.

There is one case seemingly so very apposite, that it may at first sight appear strange that the whole of this question has not been discussed on that ground—namely, the case of aneurisms. The evidence, however, from this source is almost entirely negative; for a purring tremor is far from being a constant, or, indeed, a common, sign of the existence of an aneurism: and the so-called aneurismal thrill, said to be perceptible in the pulse, has its origin, to my experience, where not in the state of the heart of the patient, in the imagination of the observer.

The structural conditions requisite for the manifestation of purring tremor are, indeed, seldom present in aneurisms. For the common form of aneurism—the false one, nosologically speaking—is not an elastic bag, to be emptied by pressure, but a hard mass, with thick unyielding walls. Nothing could be better calculated to stop the transmission of any vibration than these walls, with their irregularly laminated structure and unequal consistency. And their firm unyielding nature would render the blood in their cavity very unlikely to originate any vibrations. For, having no power of emptying itself, the cavity must always be nearly full: so the amount of blood injected at each contraction of the heart would be very small, and commonly under scarcely any greater degree of pressure than the blood already in the aneurism. So that aneurisms have, on both these accounts, as originating or transmitting vibrations, but little to do with the matter under discussion, generally speaking.

Generally speaking: but when there is a cavity with thin elastic walls, traversed by a stream of blood, and capable of considerable changes of dimension, possessing, in fact, those properties which a common aneurism has not, then this tremor is manifested in the greatest perfection. Thus we find it in aneurismal varices,—thus in the true nosological aneurisms; and thus it may be produced in the large superficial vessels of almost any person, but especially of the anæmic, by artificially applied pressure.

II. FUNCTIONAL MURMURS.

In what has been said above of the physical diagnosis of valvular disease, each murmur has been referred, as far as might be, to its specific local organic cause. But there has been frequent occasion to remark on the necessity of distinguishing each organic from its corresponding functional murmur. Much, indeed, of what might have properly found its place here, has already so been anticipated; and, but that the importance of the subject of functional murmurs claims a separate consideration, nearly all that remains to be said here might have been with equal propriety inserted in the preceding remarks on organic murmurs, so closely are the two subjects interwoven in practice.

To the practical rules by which the distinction between functional and organic murmurs is to be made, there is nothing here to add to what has been already said; for, lay down what rules we may, the diagnosis is at times very difficult, whether the physical or the constitutional signs, or both, be consulted. It cannot be facilitated by multiplying rules of uncertain application, but rather by making these rules more practically intelligible.

No very long experience is wanted to show that there is scarcely any one of the ordinary endocardial murmurs from which we are in the habit of inferring the existence of valvular disease, which may not co-exist with a healthy condition of the valves. Even the diastolic murmur at the base is not free from this fallacy in connection with the neighbouring veins. Were our knowledge of heart diseases during then, limited to what auscultation tells us, it would be very uncertain.

But pathology, guided by a little observation, enables us to group the exceptional cases, where we are exposed to this fallacy, in one class, as the anæmic or functional. This position is supported by the direct results of numerous observations on the human subject,[*] showing that those whose blood is attenuated are particularly liable to have endocardial murmurs; just as it has been shown experimentally of fluids in tubes, that a murmur may be induced in a stream or suspended, simply by diluting the moving fluid or adding to its density, as the case requires.[†] We recognise, therefore, in the anæmic—to use this as a general expression—a condition of great susceptibility to the production of murmurs. They constitute a class in whom the ordinary movements of the circulation are sufficient to produce that, for whose manifestation, in most persons, a great disturbance of those ordinary movements is requisite. This, in fact, is precisely the same as has just been shown with regard to some of the subjects of purring tremor.

This principle of a predisposition to the production of a murmur must never be lost sight of in any inquiry into the nature of a murmur. It explains how many causes, insufficient thereto in a healthy person, may produce a murmur in a person so predisposed; and so far it detracts from the absolute value of the observation of the existence of a murmur at any particular point. It has been already shown that the point of greatest intensity of murmurs is very important to be ascertained, as determining the seat of the cause in which they originate. The limitation of a murmur, however, to a particular part does not show that it has its origin in an organic lesion of that part; for, in a person so predisposed, the natural conformation of the vessels at this point, without the existence of any abnormal obstruction, may so disturb the circulating fluid as to give rise to a murmur audible there, and there only. Instances of this are familiar, though the exact explanation of each in particular is not always obvious.

For instance, a venous murmur may be heard loud in one juguiar,[‡] and not at all in the other, or of different tones or intensities on the two sides; or it may be heard in the innominatæ, and nowhere else, or in the ascending cava, and nowhere else. Or a blowing murmur in the jugulars may become a cooing or a humming sound in the innominatæ veins; or a murmur in the pulmonary artery may be transmitted as a blowing sound through one lung, and as a musical note through the other.

In many such cases the circumstances at once render it clear that the local murmur is independent of any deviation from the natural conformation of the parts concerned. We may have such assurance from the murmur being referable to parts which we know to be almost invariably free from disease; and from other circumstances. But in some cases we must be content to remain in doubt while we watch for something to clear up the difficulty; for the existence of a general anæmic condition obviously does not negative the possibility of the existence of a local organic cause: it only increases the effect. Now suppose, in such a case, uncertain to the last, on dissection we ascertain the existence of organic disease, obstructing or disturbing the current of blood about the point where the murmur was most audible, we are content to look upon the organic disease as the physical cause of the murmur. Or suppose, on the other hand, that we find the same part—say the aortic valves—healthy, we are content to believe that the murmur—say a systolic murmur—was functional. Is it in the contentedness of ignorance that we accept these two opposite results as equally satisfying the conditions of the problem which we failed to solve during life? Certainly not: that a murmur was audible, is one fact; that there is or is not organic disease, is another. The question is not, are these seemingly contradictory results possible? for they plainly are so; but on what theory are the admitted facts explicable and consistent? The explanation need not occupy us long.

When we speak of a murmur as referable to an organic lesion, we must recollect that the same effect may be produced under three conditions of the organs of the circulation—namely, obstruction may be offered, or regurgitation may be allowed, or there may be a seemingly healthy condition of the parts in question. And the explanation which applies only to one case,—obstruction,—although the most common, is insufficient, and contradictory to the explanation of the rest. We owe Dr. Corrigan much for carrying our ideas beyond what is expressed by the term obstruction, to the effects which that obstruction may cause.

As to organic murmurs: of the applicability of Dr. Corrigan's theory to practice in many cases there can be no doubt; and strictly speaking, it must be applicable to nearly all cases of organic valvular disease; for, necessarily, when a fluid is moving under intermittent pressure in a certain direction, at the moment of the application of the moving power the pressure is less on the further than on the nearer side of any obstruction to the stream. But my own experience would not enable me to say that the degree of intensity of the murmur bears any very close relation to the amount of the mechanical effects of the organic lesion in this respect. I should feel, therefore, as a general rule, more disposed to refer the murmurs arising from organic disease simply to disturbance of the circulation than to admit (though not rejecting) Dr. Corrigan's more exact explanation.

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[*] Andral, Hematologie, p. 53; Bouillaud, Œuv. cit. tome i. p 256.

[†] Archives Génerales de Méd., Août 1838.

[‡] Laennec (Aus. Méd. tome iii. p. 80) says that he has heard a murmur loudest most commonly on the right side of the neck. Bouillaud (Des Mal. du Cœur, tome i. p. 239) has heard it more often on the left. My own observations make me think that it is heard loudest, *cæteris paribus*, on the side farthest from the observer,—possibly from the fact of the integuments being generally made more tense on that side during auscultation.

So, too, with regard to functional murmurs. Abstractedly, Dr. Corrigan's theory holds good; for as the blood advances in the arteries, it naturally, yielding in the direction of least pressure, at each moment is less closely embraced by the blood-vessels. Here, then, is a cause sufficient, in a person so predisposed, to produce a murmur: but here, too, though the abstract correctness of the principle is unquestionable, I would rest content with the less definite expression of disturbance of the circulating fluid; for the effects are not manifested with any very close relation to the time and place where the presumed cause should have most influence.

Traced, then, into their elementary processes, functional and organic murmurs may each be explained clearly and consistently. The effect—namely, the murmur—is the same in both, and the proximate cause is the same.

With the more remote causes auscultation, as such, has nothing to do; for auscultation tells us only the ultimate acoustic effects: it has nothing to say of obstruction, or of the condition of the blood, or of the state of the valves. Between a functional and an organic murmur there is to auscultation, abstractedly speaking, no essential difference. They both equally indicate disturbance of the circulation.

But they indicate no more. All further information is to be obtained from pathology. It is pathology which, by laying the information from other sources to that which auscultation gives, tells us that in one case the blood is in a condition very susceptible of the influence of any ordinary disturbing cause, and that in the other there is some extraordinary disturbing cause in action. And now we know that the murmur in one case indicates disease of the blood; in another, diseased action or structure of the blood-vessels.

Yet one word more, which I should take shame to myself for saying, did I not feel that what we all now know so many of you have laboured hard to establish, and what we smile at now, you had once difficulty to controvert.

We err more often as pathologists than as auscultators. To detect the time and place of a murmur, and to measure the force of the heart's action, is not so very difficult; but it is often very hard to interpret correctly what all these signs mean. It is not very hard to see which way the compass points, but it requires a philosopher to explain its variations. Yet the compass is not an idle toy, nor auscultation a vain refinement, because their indications are not infallible.

When Andral published his classical survey of the condition of practical medicine at the time, our knowledge of disease of the heart was, as we have seen, very different from what it is now. I have pointed, in the preceding pages, to several of the advancements which have been made in this department of practical medicine. But I cannot forbear adverting to some other particulars in which the subject of disease of the heart now stands in quite a different place from that which it held when Andral wrote. There were then few auscultators, and many opponents;* but this has been all reversed. And if the weaker vessels then sheltered themselves under the name and example of those whose position gave weight to their rejection of the new-fangled doctrines, and to their incredulity, this, too, has been reversed.

It is not that the intimations of the ear are of more universal application in medicine than those of the other senses, but that they only just now take the place with the other senses which they should have held long ago; and their admitted importance results from the extent to which they are found to be applicable.

It is not that the intimations of the ear are more trustworthy or infallible: indeed, they are often very fallible and ambiguous. But those who use it most should know its use the best,—what it cannot explain, as well as what it can. And with regard to the profession of disbelief in auscultation,—thanks to those who have so clearly laid down its principles for us,—I think most would now be content to meet it in the same words which have been so well applied to the rejection of evidence on another subject: "There is cause to think that scepticism itself is often no more than a form of very unreasonable enthusiasm, demanding conviction without the pains of inquiry."†

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[*] Hope on Diseases of the Heart, Dedication, 3d edit.

[†] Davison on Prophecy, p. 100, 4th edit.

Original Communications.

OBSERVATIONS ON THE

ORIGIN AND NATURE OF THE BULAM OR YELLOW FEVER,

As it appeared in Bahia (Brazil) in the end of 1849 and the beginning of 1850.

By Alexander Paterson, M.D.
Late Surgeon to the British Hospital, Bahia.

This disease hitherto unknown in Brazil was imported into Bahia, and spread through the empire by contagion. I use the word as a generic term, embracing contagion properly so called, and infection.

It was brought by the American brig "Brazil," a suspected slaver, which arrived on the 30th September, 1849, from New Orleans: reported a passage of 77 days, and brought a clean bill of health; but it is known that she touched at Havannah, took there 21 Spaniards as passengers, and lost two of her crew on the voyage between Havannah and Bahia, of yellow fever.

The passengers on their arrival went to various lodging houses in town, but chiefly to one in the street Santa Barbara. In this house and locality the fever first broke out, and was confined to them for fifteen days; then, crossing a street, it gradually spread over the lower town, while as yet there was no case of fever in the upper town. Early in November several parties residing in the upper town, at whose house persons from the brig "Brazil" frequently visited, were taken ill; among them three Englishmen, one of whom died on the 17th November with black vomit, being the first death that occurred among the English. From these foci, in the lower and upper towns, it was at first easy to trace the contagion as the cases arose.

Its origin and progress among the shipping was equally well marked. A Swedish vessel, the "Scandia," from Lisbon, arrived a few days after the "Brazil," anchored next to her, and both being consigned to the same house had frequent intercourse: she was the first vessel attacked, losing five out of a crew of nine.

Subsequently, men belonging to other Foreign vessels, who had intercourse with those of the "Scandia," sickened, and the disease became general among them, while as yet there was no case in the English shipping; the first cases having been admitted into the British Hospital on the 3rd December. There were three, all from the same vessel: on the 9th the first death occurred, and by the 20th eighteen had died, being all who had entered, with the exception of the first three and two others. So that at last admission came to be equivalent to sentence of death.

Observing that whilst this was the state of the Hospital three fourths of those treated on board recovered, and being unable to account for this great difference of mortality on any other supposition than that the Hospital had become charged with the poison of contagion, and aggravated every case that entered, I begged all admissions to be suspended, promising that nothing should be wanting to make the attendance on board their vessels as effective as possible.

This plan was adopted, and continued from the 20th December to the end of March, when the Hospital was re-opened for a limited number of fever cases, not to exceed ten; yet with all this precaution it became again so infected that it was found necessary to shut it up for a short time in the end of May. And I am convinced, from repeated observation, and ample experience, that if a succession of cases occur in a vessel, or be admitted into any house without intermission, both vessel and house will become infected, the poison daily acquiring a fresh degree of intensity with every new case.

No English vessel arrived with the fever on board, nor, as far as I know, any other, but being obliged only to visit the English, I cannot speak so positively as to the others, though assuredly I have never heard of such a case. When the disease entered a vessel it was by virtue of its contagious property, the whole crew never being taken ill at once, but first, those who had communicated with infected localities or persons, then by one or two, until the greater number, and in not a few vessels, all were attacked, and this occasionally with an interval of one, two, or even three weeks between the first and last cases. In no instance, when the vessel remained in harbour, were there only one or two taken ill, but two-thirds or more; and not only so, but the first cases impressed their character on the succeeding ones, so that if it began in the severer form it would ravage the vessel in that form, and that only; while on the contrary, if in the mild, the whole crew might be affected without a single fatal case.

It being of the greatest importance for vessels to avoid communication, and get to sea as soon as possible after the appearance of the disease on board, many arriving in ballast, their cargoes not being ready, either cruized outside or remained in harbour, avoiding all communication, until arrangements were made for loading them with dispatch. All these escaped, though some had been two months in port, until they had been taking on board cargo from five to eight days; and if enabled to proceed to sea in a day or two after the appearance of the first cases, the sick being left on shore, the disease made no further progress on board; removal from the infected locality, and the influence of the breeze in a vessel under sail, being sufficient to arrest it.

For example, the "Ranger" lay upwards of a month in harbour when the fever was at the worst, allowing no communication. The captain lived on shore, was taken ill, but did not allow any one from his vessel to visit him, nor did he return to her for a fortnight after his recovery; and although she continued still some time longer in port, yet did no case of fever occur until some of the crew, being obliged to land on duty a few days previous to her departure, one was taken ill and died, when she immediately proceeded to Maceio in ballast, and had no further sickness. This is one out of many similar examples.

H. B. M.'s packets, carrying the mails monthly between Pernambuco, Bahia, and Rio de Janeiro, kept clear of the fever simply by avoiding communication, while the "Petrel"—the only one having communication—was attacked. She arrived on the 18th December, landed a passenger and the steward, who made various purchases in the market and town. Both were taken ill on the voyage, and died at Rio, where the vessel arrived on the 24th December. The commander and some others were also taken ill, but recovered. All new comers for Bahia I advised to return home, or continue their voyage to the mountains of Rio de Janeiro; and they all escaped without exception by using due precaution.

Again, when the disease extended from the city to the surrounding country, the places first attacked were those having most intercourse with it—not the nearest; so that its progress from place to place could be calculated by the communication.

This positive evidence of the origin and contagious nature of the disease is strongly confirmed by negative. During the twelve years I was resident in Bahia, and in charge of the British Hospital, I never saw a case of bilious remittent fever originating in the town or among the shipping; and the following extract from the register of burials of all British subjects, including seamen, in the British Cemetery, during the same period, shows, in the most convincing manner, that there is no reason for supposing the disease to be of endemic origin:—

Years.	Burials.
1838	5
1839	5
1840	8
1841	5
1842	3
1843	2
1844	2
1845	0
1846	4
1847	5
1848	2
1849	2
To 1st November .	43
From 1st Nov. to 1st May 1850 . .	123

This shows that the annual mortality in the twelve years previous to the appearance of the fever did not average four; while in seven months when it prevailed the mortality amounted to 122.

Having shown how the disease was imported, and how spread through the province, I now proceed to trace its progress to Maceio, Pernambuco, and Rio de Janeiro, where no case occurred until after the arrival of a vessel from Bahia.

The late Dr. McHardy, of Maceio, writes to me:—"The English ship *Emperor* arrived from Bahia on the 23d December, with two of her crew convalescent, two having died in your hospital, and another here on the 27th, with black vomit, but I believe the disease was communicated here not by her, but by a passenger who came from Bahia in a steamer, about the 25th, lived on shore in the house of a Portuguese merchant, where I was called to attend him on the night he arrived. Some days after a clerk in the same house was taken ill; and one of the partners died with black vomit on the 12th January. All these parties had their meals in a room where the passenger slept on a sofa."

To Pernambuco the disease was carried by the French vessel *Alcyon*, which sailed from Bahia on the 8th December, leaving three men in hospital, two of whom died. She arrived at Pernambuco on the 17th, anchored in the inner harbour, lost one man, and sent two on shore to an hospital. In this locality the fever first broke out, and the three vessels lying nearest to the *Alcyon* were the first affected, losing each five or more men; the fever being entirely confined to this part of the harbour for the first ten days.

In Rio de Janeiro the first case occurred in a lodging-house in the "Rua da Misericordia," where sailors belonging to an American vessel from Bahia lodged, one of whom died on the 28th December, being the first death in the city; and, as usual, the disease was confined to that neighbourhood for eight or ten days, while as yet there was no case in any other part of the city. But previous to this, on the 24th December, the *Petrel* packet arrived in Rio de Janeiro with fever on board.

To return to Bahia: upwards of two-thirds of the whole population, consisting of white, coloured, and black, were attacked. The mortality in the acclimated of every colour was the same, and did not probably amount to 6 per cent., while in the non acclimated it exceeded 25 per cent.

Every one connected with the British Hospital—medical men, nurses, and servants—were taken ill, but no one died.

All the English residents, 126 in number, were attacked, except nine, and three died, one of whom had been 18 months, and two—a child and nurse—only six weeks in the country.

Far different was the result to the non-acclimated; for, from the beginning of December to the end of March, there were among British seamen 343 cases and 98 deaths—viz., in—

	Cases.	Deaths.
December . .	96 . .	26
January . . .	77 . .	25
February . . .	50 . .	16
March. . . .	120 . .	31
	343	98

Amongst the English, whether residents or seamen, there was not a single instance of second attack, nor did any one who had had the disease in other countries suffer; for two, and two only, of the residents had previously had it—one in the West Indies, the other in Demerara—and they were of the nine residents who escaped. Among the seamen were several, and they all escaped, although the greater part, and, in two instances, the whole of the crews to which they belonged were affected.

In the mildest, as well as in the severer cases, the convalescence was frequently tedious, extending from two to four, or even six weeks, though the patient might not have been confined to the house more than a day or two, the depurating functions requiring considerable time to throw off the consequences of the disease. The fatal cases were generally attended either by black vomit or suppression of urine. In the former the fever was high, the suffering great, and death usually took place on the fourth day; while in the latter the powers of life were annihilated at once, as with a strong narcotic; the patient never rallied, but expired without pain, sometimes in less than twenty-four, generally in thirty-six hours,—this form of the disease beginning, as it were, with death!

My experience and observation confirm, in the fullest manner, the doctrine and statements of Sir W. Pym without a single fact to the contrary, and prove—

1. That the disease is one *sui generis*, produced by a specific poison, and not the same as the bilious remittent fever.

2. That it is highly contagious, and spreads by virtue of this property.

3. That it is very severe in the non-acclimated, and mild in the acclimated.

4. That it attacks the human frame only once.

Before concluding, I would remark that the epidemic proved, what I stated at its commencement, on the authority of Sir W. Pym, that the mountains of Rio de Janeiro, on account of the lowness of their temperature, would afford a secure refuge against it. Had this fact been more generally known, and the fatal non-contagious theories less credited, many lives might have been saved.

The places in these mountains most frequented are the town of "Petropolis," and the farm of "Constancia," respectively distant twelve and eighteen hours' journey from the city.

"Petropolis" is situated nearly 3000 feet above the level of the sea, and its temperature in the hottest season ranges from 68° to 80° F. In order to escape the fever, many fled to it from Rio de Janeiro, some of whom were taken ill three or four days after their arrival—none later; thus proving they had carried the disease with them, as it does not usually manifest itself until the fourth day after infection. Eleven died; yet was the disease communicated to no one, although many had been in constant attendance on the sick: therefore some maintain that the disease cannot be contagious; while the truth is, it cannot spread under ordinary circumstances at such a temperature. It never reached "Constancia," which is 1000 feet higher, with a temperature 15° lower, though many from Europe and different parts of the empire took refuge there.

It is no argument against this statement that the disease continued in Rio de Janeiro when the temperature there was as low as that of "Petropolis," or in the *Eclair* after her arrival in England; because, from its long continuance, and the multiplied sources of infection in both these instances, the contagion had acquired a degree of intensity, which, under ordinary circumstances, it does not possess.

The following letter, addressed to a medical practitioner of Rio de Janeiro by my colleague, and brother, John L. Paterson, M.D., surgeon to the British Hospital at Bahia, shows that his experience subsequent to my return to England in May last confirms the opinions already stated:—

No. 2.

Bahia, October, 1850.

My dear sir,—I duly received your pamphlet and kind letter, for both of which I am much indebted to you. The former I shall forward to my brother by the first vessel.

At the request of our Consul I drew up some time ago a short statement of the history and progress of the yellow fever, as manifested here, to be forwarded to the surgeon of the British Admiral's ship the "Southampton." As that vessel is still off your port, I refer you to it for the information you desire. In that paper you will observe that I follow implicitly Sir William Pym. I do so because I have found his statements, without a single fact to the contrary, most amply borne out by my own experience. The conclusions I have there come to are—and I state them as a sort of countertext to your own, at pages 23 and 24—

1. That the disease is one *sui generis*, differing as essentially from the endemic yellow fever—the bilious remittent of some tropical climates—as from typhus, or any other fever whatever.

2. That it is highly contagious. (Contagion I use, in accordance with modern custom, as a generic term, embracing contagion, properly so called, and infection.) That it spreads from one person to another, and from one locality to another, solely by virtue of its contagious property; being capable of being transmitted either by a person himself labouring under the disease, or by his clothes, bedding, or other articles that had remained in contact with, or sufficient proximity to him, during the time he laboured under the disease. As a corollary from this, applicable to our own case—that the fever was introduced here by the American vessel "Brazil," arrived on the 30th September from New Orleans and the Havannah, and from hence re-exported to the other parts of the province and the empire.

3. That it attacks the human frame but once.

In regard to the first of these propositions, you say at page 23, "that bilious remittent and yellow fever exist only under similar conditions of locality and climate." That may be coincidently true of Rio de Janeiro, but can never with any show of reason be stated as a general proposition; for, during the six years that I have been in Bahia, I have never yet seen a single case of bilious remittent originating in the town. I have seen people from distant parts of the province—the Empire or the Coast of Africa—labouring under the sequelæ of bilious remittent fever; never the fever itself. From having had at one time considerable practice among the crews of slave vessels, I have seen many cases of these sequelæ of the coast fever—the endemic bilious remittent; but in all these there was more or less enlargement of the liver and spleen, with a yellow tinge of skin remaining for months after the attack. I had also remarked, that if any one had ever had the fever, and continued trading to the coast, he would have the disease in nine out of the ten following voyages.

In our epidemic I have never seen enlargement of the liver or spleen as a sequela of the fever; nor, indeed, with the exception of two cases of albuminuria, have I seen any sequela accompanied by organic derangement fairly traceable to the disease. Again, no one in Bahia ever caught, or dreamt of catching, the coast fever from these slave crews, although they were turned loose, hardly able to crawl;—not even when sent from the slave vessel to a crowded sailor's boarding-house — the two places in all the world, surely, the most fit to convert an originally non-contagious disease into a contagious one, did such a thing really happen.

While in Paraiba, which is situated on a muddy mangrove bush covered river, I saw not unfrequently cases of bilious remittent; but these, in their ultimate manifestations, even when running on to a fatal termination, bore no sort of resemblance to the latter stages of the late epidemic. You say, "With the exception of black vomit you had not, in the prevailing epidemic, seen a single symptom which you had not also frequently witnessed in the common remittent of the country." But is not the black vomit the very Hamlet of our tragedy?

All fevers at their outset bear a certain general resemblance to one another, as the embryos of all beings do: it is only when fully developed that their distinctive characters stand prominently out. In such abortions of the disease as occurred in acclimated persons, it might be confounded with other febrile complaints; but sure am I that no fever of that family, however distant the relationship, that ravaged our shipping, had ever occurred in any port of the Brazils, prior to the latter months of 1849. At the first meeting at the palace early in last December, for taking into consideration the nature of the disease, when an attempt was made to fix an endemic origin on it,—it being attributed to the swollen state of the rivers, and the immense quantity of decaying vegetable matters washed down by them,—I replied that these causes had existed every preceding year without any similar results; and, above all, that on that supposition the fever ought to have broken out in those unhealthy situations at the mouths of the various rivers pouring into the bay, and from them have been transmitted to Bahia; whereas the notorious fact was, that it had broken out in Bahia, situated on a long narrow tongue of land, without any river in the vicinity, and from hence was transmitted across the bay to those same unhealthy localities.

Besides, does it not involve a contradiction in terms, to speak of an endemic disease spreading from Para to Rio de Janeiro, or rather from Charleston* to the river Plate, occupying, not, as you state, only similar localities to that from whence we have traced it, but all localities alike? Does not Sir William Burnett's attempt to make out this disease some other one with something new added to it—for example, bilious remittent, with a contagious poison clapped on to its back—smack prodigiously of our old friend the centaur?—a being, I fear, more classical than philosophic.

If bilious remittent is capable of degenerating into epidemic yellow fever, when certain causes, such as you specify, or any other, have conspired to give it a sufficient degree of intensity, surely, when the epidemic is on the decline, and these causes are gradually the one after the other withdrawn, it ought *à fortiori* still more readily to relapse into its original form of bilious remittent. Such, most assuredly, was not in any respect true of our epidemic, the last cases being equally well marked, and equally fatal, with those occurring at the height of the epidemic.

Allow me to give you the history of my last case; it occurred now some six weeks ago. It is remarkable for several reasons:—

On the 20th of August, the only three English vessels in port that had ever had the fever on board were the "Sally," the "Bahamian," and the "Lady Sale." The "Sally" had had no case of fever since January; the "Bahamian" not for more than two months; the last case on board the "Lady Sale," was considered cured on the 1st of August.

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* See MED. GAZ. for February, p. 217.

Prior to the 20th August I had frequently said to the consignee of the "Lady Sale,"—"Would to God you would hurry away that vessel, and she will take the fever with her!"

On Saturday the 17th August, Capt. Brown, of the English schooner "Ronavolo Morgaka," dined on board the "Lady Sale," and slept there, leaving only next morning after breakfast, when he went on shore, and slept that night and the following at the house of his consignee, as was his custom. On the night between the Monday and Tuesday he was seized with the fever, and died on the Friday. It was one of the worst cases I had seen in the whole course of the epidemic, and it was the only one in Bahia at the time. It is one case of many that I could give, showing, if I understand it aright, an attack from an infected locality, no diseased person being present; and proving also that black vomit, suppression of urine, &c., are part and parcel of the complaint, not superadded from extraneous unfavourable circumstances.

The foregoing case is also remarkable for this other reason, that the "Lady Sale" was here last December, when the captain and all the then crew had the fever. She went afterwards to Europe, and returned with the same captain, but an entirely new crew. This second voyage every one of the new crew had the fever, the captain never a symptom of it. His mate, second mate, and two of the crew, died. During the last 48 hours of Capt. Brown's life, the captain of the "Lady Sale" nursed him, never leaving the room; sleeping in it, if sleep he got any! After the death of Captain Brown, on the Friday at midday, the captain of the "Lady Sale" went on board his vessel, whither I was summoned in the afternoon in all haste, as he was reported to have caught the fever at last. I went on board at five. They told me he had been asleep for half an hour. I went into the cabin, felt his head and pulse, and, as he was quite free from fever, did not waken him, but told the steward to tell him when he awoke that I had seen him, and that there was nothing the matter with him. He never once awoke till next morning at half-past nine, having slept fifteen hours on end; and, though so exhausted by his attendance on Captain Brown, he had never caught the fever.

There have been several vessels here twice during the epidemic, and in no single instance has any one individual had the fever both voyages. Besides the "Lady Sale," we had the "Empress" and "Taymouth Castle" twice here. In both vessels were some men who had been both voyages; some that had been only the second. The fever was on board both each voyage; and in the case of the "Taymouth Castle," the men who had been the first voyage were the only persons that escaped the fever the second. In the case of the "Empress," half of the new crew had the fever, not one of the old.

With yourself, I saw not a few persons here attacked with the fever, that reported themselves as having formerly had the fever in the West Indies or elsewhere; but in all these cases, in tracing back their history, the disease they formerly suffered from turned out to be the endemic bilious remittent. Of those clearly proved to have had the fever elsewhere, and who escaped it here, I shall mention a few out of many. The second mate of the "Carena" had it in Demerara, and was the only one of his vessel that escaped here an attack of it. The chief mate of the "Empress," brother of the person just named, had it at the same time with him in Demerara, and was the only one of his vessel here, except the captain, who had also had it in the West Indies, who escaped it.

The captain of the "Bahamian" had had it at Port au Prince, and alone of all his crew escaped it. The captain of the "Rossendale" had had it in the West Indies, and alone of all his vessel escaped it. The captain of the "Mersey" had had it in Guayaquil, and almost alone, if not alone, of all his vessel escaped it. The "Carena" lost 6 of her crew; the "Empress," 1; the "Bahamian," 3; the "Rossendale," 4; the "Mersey," 1. Be it remarked, also, that having made inquiry on board all these vessels, and found that the above named persons had formerly had the disease, I had stated to them, before ever a case had occurred on board their vessels, in full reliance on the truth of Sir William Pym's doctrine, that, be the fate of the rest of the crew what it might, they could never get the fever; and in no one case in which that assurance was given—and it was given to many more than the above-named persons—was it belied by the event!

I saw two cases, and only two, such as the following:—The fever raged on board a vessel, in which was a person who had formerly had it; that person fell ill with rather smart fever, which ended in less than six hours in profuse perspiration, after which he got up and went about his work as usual; feeling weak, however, for a day or two.

In regard to the contagion, I would make only this one additional remark, that we have now had, for the last two months, small-pox and measles very epidemic, and that I have found infinitely more difficulty in following up the trail of these diseases from case to case, than ever I had with the fever.

If the disease spreads not by direct contagion, but by an intermediate tainting of the atmosphere, how does it happen that, during the last three months of the epidemic, it prevailed exclusively in the shipping? and that all those persons, and they were very numerous, who arrived here after it had left the town, but while it still raged in the harbour, escaped the disease by the simple precaution of avoiding any communication either with the shipping, or the hospitals where the sick were received? Or how does it happen that all the last dozen cases (with a single doubtful exception), extending over a period of six weeks, occurred on board one vessel, every one of whose crew had the disease, there being at the time in port upwards of thirty foreign vessels that had never had the disease.

If the immunity of acclimated persons from the graver symptoms arises from their having breathed for a long time the poison in minuter doses, and from their systems having thus become accustomed to it, and capable of receiving without injury a stronger dose, to what are we to attribute the immunity from those same graver symptoms of the two-thirds of non-acclimated persons who recovered? To our treatment? It was the same for those that recovered and those that died; and would to God I could conscientiously believe that I had done any thing towards saving the life of any one single unacclimated person attacked with the disease!

Remark, in the above statements, wherever I have brought forward any fact in support of any position, I have done it in all good faith, and knowing of none militating against it I augur most favourably of the future; and as the folks here have all studied Pym, and are strong in the faith that they can never get a second attack, no one individual has left Bahia on account of the fever.

By the bye, I had also been told some wonderful cases of vessels having caught the fever far out at sea, but had refused to credit that such were cases of yellow fever, as, on inquiry, I had invariably found that no one had died under such circumstances—a fact so contrary to our experience, so galling to our vanity, as not to be received on slight evidence.

Yours truly,
J. L. Paterson.

FŒTUS OF UNUSUAL DIMENSIONS.

M. Depaul related the following case at a meeting of the *Société Médicale d'Emulation de Paris*:—

A little stout woman, married to a very large and strong man, had already had eight good-sized and well-made children, and was near the termination of her ninth pregnancy. Labour pains coming on, M. Depaul was sent for, and found a shoulder presentation. From the swollen state of the mammæ, and the absence of the fœtal auscultatory signs, M. Depaul inferred that the child was dead: this was found to be the case when delivery had been completed by turning. The fœtus presented no signs of putrefaction; but the cuticle was detached in some parts. It measured, from the vertex to the toes, sixty-two centimetres (=24·409 Eng. inches; it weighed six kilogrammes (=16·077 lbs. Troy). The subjoined are other measurements of this fœtus:—

	Inches.
Head.	
Occipito-mental diameter . .	5¼
Bi-parietal	4 1/10
Bi-temporal	3½
Fronto-mental	3¼
Shoulders.	
From one to the other . . .	7¼
Sterno-dorsal	3
Pelvis.	
Transverse	5
Antero-posterior	3
Circumference of thigh . . .	9·065
Circumference of arm . . .	4·430

—*L'Union Médicale.* λ.

ON THE
PERIPHERAL NERVOUS SYSTEM.

By Samuel Rhind.

(Read before the Abernethian Society, Oct. 17th, 1850).

The microscope reveals to us that the nerve-fibres of the cerebro-spinal system are composed of two parts—a central grey portion, termed the axis cylinder, or grey band of Remork, and an outer sheath, called the white matter of Schwan, after its discoverer: these nervous elements are inclosed in a thin membranous investment, termed the neurilemma. There can be no doubt but that these two elements perform different functions. The central axis seems to be the true conducting portion; for, from Schwan's observations on the nerve-fibres of the tail of the tadpole, plain fibres at first are only seen: these must perform their proper function of conduction: it is only at a subsequent period in their development that they seem to have added to them their investing white sheaths. Again, whilst the sheath appears to cease near a ganglionic cell, the grey axis is continued into it; this, also, is very significant: and, lastly, the sympathetic fibres seem exclusively formed of the central axis. I shall speak of the function of the sheath presently.

As these cerebro-spinal fibres approach their peripheral termination, they lose the double contour, and assume, for the most part, a perfectly plain appearance; either from losing entirely Schwan's matter, or from this becoming so extremely diminished as to be no longer visible. This peripheral condition is shown very well in the fibres of the retina; and here, according to Messrs. Todd and Bowman, the investing sheath is quite absent. It is also shown well in the olfactory region, and in the fibres of the auditory nerve, distributed in the vestibule. Simple fibres have also been observed in the papillæ of the tongue. From Dr. Walter's very interesting observations, some of the fibres in certain of the papillæ of this organ end, as it were, with open mouths, as if the extremity of the central axis was only exposed. Wagner states that the fibres in the electric apparatus of the torpedo ultimately assume the plain condition. M. Quatrefages has shown that the cutaneous fibres of the amphioxus divide into delicate homogeneous filaments.

In muscular tissue the ultimate fibres indicate much the same condition, and the fibres of the tooth-pulp have presented similar appearances. The very interesting observations of Professor Kölliker show that the fibres that pass into the cutaneous papillæ are plain, and without apparent structure. Now it is this plain, and, apparently, homogeneous portion of the cerebro-spinal nerve-fibre, that I would regard as its *true periphery*—namely, that portion of centripetal fibres which, being in functional relation with a sentient surface, is capable of detecting the various stimuli, or that portion of centrifugal fibres which, being in functional relation with contractile tissue, communicates to it the motor impulse. I would therefore, for the sake of distinction, call the plain portion of the centripetal fibre the excitable portion; that in the centrifugal the exciting. That this is the true interpretation will, I think, be evident, if we look a little more closely. If we take any of the above-mentioned examples, we find that wherever a fibre is to receive an impression, from whatever source, light vibrations, or from odoriferous or common irritating particles, or where a centrifugal fibre had to communicate a motor impulse, it presented this plain condition. But what does this condition of the fibre indicate? and why do we speak of this portion of it as specially its functional pheriphery in contradistinction to the rest of its course?

It has been before observed that the true conducting portion of the fibre certainly seems to be its central axis. By Schwan's observations, before alluded to, and from the case of the sympathetic, we may conclude, I think, also, that it is this portion which perceives the stimulus: so that, just as we should expect, whether the impression was at first received, then conducted, and at last conveyed into a ganglion cell, it would be by an uninterrupted extension of the grey central axis. With regard to the sheath, seeing that it is quite absent in one system of fibres—the sympathetic—and partially so in the cerebro-spinal, we cannot, I conceive, consider it as a conductor. The office that I would therefore assign to it is, that it is the economiser or allowancer out of the true functional periphery; for we find, as before stated, when the fibres come into any of the functional relationships just referred to, the sheath is either removed, as in the case of the retina, as if to allow the stimulus to exert its full strength on the exposed excitable grey axis, or else is so greatly diminished as, whilst it allows the impression to be made, yet modifies the intensity of the stimulus, just as (if we may take a rough example) a stimulus whilst it is allowed to pass, yet is modified in its intensity by the varying thickness of the cuticle over the papillæ. The probability, I think, is, that in almost every case the sheath is quite removed in this plain portion of the fibre.

When, however, the fibre is invested with its sheath in such quantity as to give it its double contour, and when, in this condition, it passes into the trunk of a nerve, then it has commenced, we may believe, its true course in contradistinction to its true periphery—namely, that portion of its length which is solely for the conduction of an impression, and which is no longer capable of detecting through its thick sheath those delicate stimuli which I would term functional, to distinguish them from abnormal and violent ones. The importance of this will presently appear. Let us now proceed to see the bearing of this view upon certain physiological doctrines.

It is now a well-known fact, that a nerve fibre, if irritated unusually in its course, conveys to the mind an impression resulting from such stimulus which is referred by it to the peripheral distribution of such a fibre: to take a common instance, if the ulnar nerve is compressed behind the inner condyle, we have the sensation of pins and needles in the palm and back of the hand, the little finger, and ulnar half of the ring finger,—parts to which this nerve is distributed. Some persons have assumed from this that the mind has no power of discriminating the very point of any nerve-fibre to which a stimulus has been applied. But Volkman has endeavoured to show that such an assumption is false; and that he is right, to a certain degree, all will admit, for in the case before referred to of the ulnar nerve, whilst the sensations were for the most part referred by the mind to its periphery, yet a dull pain also was felt in the seat of the injury. But when it is further stated that in the natural state of things the mind can discern the very point of a fibre irritated in any part of its course, there is good reason to doubt the truth of such an observation. Let us see the facts brought forward in support of it. It is said that if a needle be drawn across the back or thigh, or any part in which nerves are widely placed, the mind perceives the line of irritation as a straight one, and that if the impression was referred to the ends of the fibres, sensations should be felt scattered about the line of irritation where the points of fibres crossed by the needle terminate.

Again, it is said, in the case of the retina, its whole surface is not so covered with the ends of nerve fibres that the images of any two points or lines must always fall on different fibres; but that if in any case they fall on different parts of the same fibre, and are seen as distinct, it must be that the mind can discern the points so irritated.

Now two things are assumed here:—first, that the usual part by which a fibre receives an impression is its extreme point, and secondly, that the parts so irritated form portions of the course of the fibre. With regard to the first, increasing microscopic observation shows that the looped arrangement obtains to a considerable degree in the nervous periphery. Professor Kölliker has proved it so for the skin, and I believe some recent research has proved it also to obtain in the retina, so that this idea must be considerably modified, and certainly is not tenable in the cases of those instances brought forward to support the doctrines under consideration. As to the second point, assumed, it has been my endeavour to show how both microscopic anatomy and physiology concur in evidencing that the parts of the fibres in question are truly their periphery, and not portions of their course. In the first of the two instances given, the needle, from being drawn merely along the surface, comes only into relation, or chiefly so, with the papillæ, and consequently with the plain fibres in them, and therefore with the true functional periphery, And when with this we consider the very interesting experiments of Weber on the sensibility of the back and thigh

—namely, the parts in question, that two stimuli had to be thirty lines apart to be distinguished as distinct, we can at once, I think, see how the line of irritation would be a straight one, without at all supposing from such a fact that the mind could perceive a stimulus applied to a nerve-fibre *in any part of its course*. Or, to refer to the instance of the fibres of the retina (and this is more satisfactory), the images of the points or lines would here fall on those portions of fibres which I have pointed out as their true periphery; consequently the mind could discern the exact points at which sixty or a hundred impressions might be made in the course of any one fibre: and I mention here a well-known fact, which I think is strongly confirmatory of the view before us,—namely, that the optic nerve, ere it breaks up, is incapable of receiving the stimulus of a ray of light. Now up to this point the fibres are invested with their white sheaths: as soon, however, as they pass into the retina, then, the sheaths being deficient, they at once become irritable, and whilst, doubtless, this irritability is in a measure due to the presence of the vesicular nervous elements in the retina, as pointed out by Todd and Bowman; yet this fact speaks very significantly against the idea that a fibre can detect an *ordinary* impression in any part of its course.

Now the conclusions that have been forced upon physiologists from this confusion together of the periphery and course of fibres, are, that in health and under ordinary stimuli the mind can discern the exact point or points of a fibre stimulated as in the case of the retina; whilst under unusual stimuli, as in the instance of the ulnar nerve, the mind refers the irritation to the ends of the fibre. If, however, the view I am bringing before you be the correct one, it will be seen that the first conclusion is unfounded, because the instances referred to are those of stimuli being applied to fibres in their true periphery; whilst with regard to the second, the fibres being there, unusually stimulating in their course, without believing any morbid condition of the fibres to exist, we recognize instances of that well known law of nervous action before referred to.

The very fact itself of the mind referring an unusual stimulus made in the course of a fibre to its periphery, supports very strongly the present view; for if it was the custom of a nerve-fibre to detect an impression in any part of its course, the mind would be, by referring the impression to its periphery, always receiving false intelligence as to the whereabouts of any stimulus, and so confusion would ensue. It would be said by some, you allowed that in the compression of the ulnar nerve the mind could detect the seat of injury: how does this tally with your view? The question is easily answered. In the compression of the nerve unusual force is used, so that the white sheath is pressed on, and thus exercises in turn pressure on the irritable axis, and so a dull pain is felt, as we might expect; but this is far different from the gentle, healthy, and what I would term *functional stimuli*, applied to the nervous periphery,—such as the gentle vibrations that are accustomed to be detected by our senses.

It is *only* for this functional relationship that I am contending. With regard to incised wounds, also, the sharp instrument severing the nerve-fibres must come in contact with the axis cylinder. and so the sharp pain is produced; for. as I have stated, the conducting part of a fibre and its periphery are continuous, and that it is the sheath which determines which portion of a fibre shall be its periphery, and which its course.

A word in passing with regard to the Pacinian corpuscules. It has been held by some that these organs are the result of disease. The nerve fibre, as it passes into one of these bodies, becomes plain; and we have every reason to believe it does so from either partially or entirely losing its sheath. If such is the case, I think, when the views expressed in this paper are considered, we must discard the idea above mentioned with regard to these bodies. If, indeed, there is this connection of nervous periphery with special structure, we must certainly conclude that they perform some office in the animal economy. One or two circumstances support this view *If a Pacinian corpuscule bends on itself, then*. at the angle of flexion, the double contour is seen, as if at this *distorted part* the functional relation of this organ and the nerve-fibre was destroyed. Again. a fibre, if it passes from one corpuscule into another, in the interval resumes its double contour.

We will now pass on to the last portion of my communication—namely, a consideration as to how far any of the views advanced in the previous portion of the paper elucidate or explain some of the phenomena observed in the sympathetic system: and let us also see how far they may aid us in investigating the functions, relatively considered, of the two great divisions of the nervous system—the cerebro-spinal and sympathetic, or ganglionic. It has been supposed that the great cause of the difference of the phenomena observed in the latter system to those in the former depends on the number of ganglia that any one fibre has to pass through, and so that by ganglionic influence the conducted impression is diffused. Doubtless this is a principal cause of the difference; but it does not explain all; for it seems to me that physiologists by such reasoning seem to lose sight of the fact that an impression made in the periphery of a spinal nerve-fibre, ere it reaches the sensorium, and is perceived there as a sensation, passes through the mass of ganglia that make up the spinal cord. Yet, in this case for the most part the impression is conveyed in all its integrity. Since, therefore, both impressions are subject to continued ganglionic influence; and since, also, those conveyed along sympathetic fibres seem always diffused, whilst those in the cerebro-spinal are only occasionally so, I think we must look for some additional cause to account for the difference of the phenomena observed.

Now this difference, that probably cannot be *alone* explained by referring it to ganglionic influence, receives, I think, some elucidation from a consideration of the previous communication. The white sheath has before been spoken of as the economizer or allowancer out of the true functional periphery of the cerebro-spinal fibres. Now since there is no such sheath in the sympathetic, there is, anatomically considered, an unlimited periphery; whilst, functionally regarded, we must limit this to that portion of those fibres in relation with a sentient surface or contractile tissue. Thus a centripetal sympathetic fibre may be capable of detecting impressions for a great length of its course; and thus, I think, might we explain with much probability some of the phenomena hitherto referred to the diffusion of impressions by ganglia. A consideration of this view may also help us much, I conceive, in understanding the reasons of the differences of contraction observed in the striated muscular fibres, and those of organic life. For whilst in the former a nerve-fibre may be in anatomical relation with the contractile tissue for a great part of its course, yet, from having its non-conducting sheath in considerable thickness, the impression cannot escape; but near its end the fibre either loses entirely, or in great part, its sheath, and there the impression escapes from its vital relationship with the muscular tissue, and in all its strength communicates to the few surrounding fibres the motor impulse, and so we have the sharp quick contraction. I have said that the sheath may not entirely cease; but we can easily understand how that though the fibre be in anatomical relationship with the muscular tissue, yet from the central axis being coated by a considerable quantity of its non-conducting sheath, the impression cannot at first escape, but when the sheath is reduced to its minimum, then, from the superior vital attraction of the contractile tissue, it passes through its sheath, now unable to prevent its escape, as (and I only use it as an illustration) the electric fluid passes through a bad conductor to gain any body which has a superior attraction for it. If the fibre loses its sheath entirely, then, of course, no such explanation is needed. With regard to the sympathetic fibres the case is far different; for since they have no sheath, it follows that their functional relationship with the organic muscular tissue is exactly the same as their anatomical: consequently, the motor impulse is communicated to more of the contractile fibres, and through a greater portion of their length it is thus weakened, and thus can be explained the slow continued contraction of these fibres. In short, whilst the anatomical relation of the cerebro-spinal fibre bears no proportion to its functional relation with muscular tissue, in the sympathetic both are equal: of course the great influence that the difference of intimate structure of the two varieties of muscular tissues exercises in causing the two forms of contraction, is not forgotten in the above observations. The views expressed in this paper are quite consistent with that beautiful theory,—namely, that a nerve-fibre has the inherent power of preven ing the escape of an impression, till it comes into relation with that tissue with which it is functionally related. This is evident on a little reflection, so that I will not further comment on it.

If we hold this view,—namely, that nerve fibres have an inherent power of retaining impressions in their *true course*, we need not have recourse to the view hinted at by Messrs. Todd and Bowman, that the white sheath is an isolater of impressions, since the surrounding tissues would have no attraction for them, and so themselves would act as isolaters. Whilst we hold this as sound physiology, yet we must remember, however, that one fibre which we may suppose to be conducting an impression, is surrounded by many others capable of conducting in the same direction. I would therefore ask,—May not the sheath in the course of cerebro-spinal fibres have the office of preventing any communication between fibres themselves conducting in the same direction, and may not the absence of the same in the sympathetic allow of such communication? This question I ask cautiously, knowing that it rather clashes with received views; there are, indeed, some things which militate against it, yet, I think, after we have carefully considered everything, there is that which makes it sufficiently probable to warrant further attention. It will be at once evident that such a view would help us much in considering the relative functions of the two great divisions of the nervous system. I have in this paper endeavoured to point out that portion of a nerve fibre which should be regarded as its periphery, in distinction to its course. I do so cautiously, knowing that there are facts which might be urged against such a view. As far as I know, this has not been made the subject of special investigation before: enough, I conceive, has been said to warrant further inquiry; for it must occur to every reflecting mind, that we might expect to find a special peripheral arrangement in fibres for the detection and communication of impressions, just as we do a special central apparatus to receive, reflect, or transfer such.

LONGEVITY OF THE COLOURED POPULATION OF BALTIMORE, U.S.

Dr. JOYNES, in an interesting statistical paper, remarks:—If we compare the different classes of the population of Baltimore with reference to *longevity*, we shall find the advantage very greatly in favour of the coloured inhabitants. In this respect, our tables furnish results entirely in accordance with those deducible from the census of the country at large. Among the white inhabitants, the proportion of those who have attained the age of 100, and upwards is 1 in 8,132; among the coloured inhabitants, it is 1 in 493; and, if we regard the free coloured and the slaves separately, the proportions are 1 in 461 and 1 in 803 respectively. We have here another illustration of a truth already well established by statistics—that there is no constant ratio between longevity and the ratio of mortality; for that class of the population of Baltimore which offers the lowest rate of mortality contains the smallest proportional number of centenarians, and *vice versâ* (taking the coloured population as a whole). Probably, owing to the difficulty of determining the ages of the blacks, there is some exaggeration in the number of those who have attained an advanced age; but, making all due allowance on this score, the greater longevity of the negro race appears sufficiently well established.

If we institute a comparison between the two sexes in this respect, we find a much greater proportion of females than of males aged 100 and upwards, both in the white and the free coloured population. Among the slaves, the reverse holds good.

The *mortality* on an average of nine years was taken as follows:—

In the general population	.	1 in 45·42
" white	" .	1 in 46·40
" free coloured	" .	1 in 37·17
" slave	" .	1 in 26·69

These rates, although considerably higher than those of the healthy year 1840, are nevertheless extremely favourable to the salubrity of Baltimore, and will compare advantageously with those of other large towns, whether in America or in Europe. They are even lower than those given for Philadelphia by Dr. Emerson, leaving out of the calculation the years in which epidemic cholera prevailed in that city. It must be borne in mind, that neither of the years in which the cholera at its first visitation ravaged this country, is embraced in our series; and, as for the year 1849, the cases of cholera occurring in Baltimore, if any, were few in number.

The comparatively high rate of mortality among the coloured inhabitants is no less remarkable here than in other American cities, and finds abundant explanation in the miserably bad hygienic conditions in which the black population is for the most part placed.—*American Journal of the Medical Sciences*, 1850.

MEDICAL GAZETTE.

FRIDAY, MARCH 28, 1851.

In a short notice to a letter on the subject of the registration of deaths by medical men, published in a recent number of this Journal,* we remarked that in the cases of casual patients seen probably only once or twice some weeks before death, it was most unreasonable to expect that a medical practitioner should sign a certificate of death without remuneration; but that in the case of private patients, attended until death, the signing of such certificates was a duty which the law required of a medical man without remuneration. This remark has drawn from a respectable practitioner some correspondence which he had on this subject with the Registrar General, and which we have great pleasure in inserting in our pages.—We also insert another letter, signed "D. R." in reference to the same subject.†

It is with regret we perceive that there is a determination on the part of some members of our profession to render the Registration Act a dead letter. Our correspondent, "D. R." who appears to have studied, with profit, the rules of special pleading, thus expresses himself:—"The Registration Act, with its complicated machinery, has thrown on the Registrar the whole duty of ascertaining the cause of death, and *upon application from him* the medical attendant and friends of the deceased are bound to give *verbal*, but not *written* information." This gentleman is therefore determined to stand up for his strict legal rights. It is a *verbal* and *not* a *written* statement which the law compels him to give; hence, he would doubtless prefer being dunned by the frequent calls and inquiries of the Registrar, to filling up one of the printed forms of certificates, gratuitously supplied for this purpose by the Registrar General. In an explanatory statement, published a few years since, the Registrar General observes:—

> "You are probably aware that under the 6 and 7 William IV. c. 86, s. 25, the medical attendant of the deceased person, in the last illness, is bound to give information, if applied to within eight days, with respect to the several particulars required to be registered; but if the cause of death be entered by you in a certificate as accurately as is possible in the present state of medical knowledge, some person of the family may be the informant, give the registrar your certificate, and *save you frequent calls and inquiries.*"
>
> "I need not dwell on the utility of *accurate returns* of the causes of death, either in reference to public health, medical police, or *medical science*, which is based on extended observations; but I count on your cordial co-operation and aid in obtaining from English practitioners such registers of the important facts in question as may promote the public good."

By a circular letter published in 1837, signed by the Presidents of the Colleges of Physicians and Surgeons, and by the Master of the Society of Apothecaries, it was strongly urged upon all legally qualified practitioners that they should co-operate in carrying out the useful purposes of the Registration Act, by certifying the cause of death, and giving an authentic name to the fatal disease. We believe that this appeal has, on the whole, been well responded to; and, from long-established usage, as well as from the manifest advantages conferred on medical science by the practice, we have been accustomed to regard it as a duty on the part of medical practitioners to furnish written information of the cause of death.

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* March 1851, p. 439.

† See p. 569.

With the blank forms of certificates, supplied by the Registrar-General, the trouble is small, and the information is likely to be more accurate: but the practitioner who writes under the signature "D. R.," and who is a Fellow of the Royal College of Surgeons, tells us that he cannot "understand why any medical men should be willing to take on themselves, without remuneration and without necessity, the responsibility of committing themselves and their reputation to a written statement of the cause of death of a patient." The writer of this letter must have a singularly constituted mind. The 25th section of the Act, with which he pretends to be so conversant, compels the medical attendant present at the last illness of the deceased to give information of the cause of death if applied to within *eight* days; and the learned censor has, therefore, obviously merely the legal option of committing himself and his reputation to a *written* or a *verbal statement* of the cause of death. He prefers a verbal statement, although why, we are unable to perceive: it involves more trouble, and is far less likely to be accurate.

The necessity and legal responsibility are in either case the same; and a knowingly false verbal statement would involve a party in the same penalty under the 43d section as a false written statement. The writer probably considers that he has gained a glorious triumph over the Registration Act by adopting this course: he would prefer occupying ten minutes in a verbal discussion with the registrar to occupying two minutes in writing the cause of death, and signing his name on a printed form. It is quite clear that accurate returns of the causes of death, and extended observations on the mortality produced by certain diseases in reference to public health or medical science, go for nothing in his opinion, unless accompanied by pecuniary remuneration. Until a fee be granted, he will do all that lies in his power to oppose accurate registration, by giving *verbal*, but *not written* information of the cause of death; and on looking over the records of mortality under a national visitation of cholera or other epidemic disease, he will have the satisfaction of knowing that, according to strict law, these deaths may have been registered upon the "*verbal* information of any casual party, whether present at the death or not;" and that "a certificate is not required from a medical man *in any case* for the purpose of burial, or even for obtaining the registration of the death."

Our advice is, that, disregarding the strict law of the case, a practitioner, to the best of his ability, should fill up these blank forms with a *written* statement of the cause of death. Let him consider it as a duty imposed on his *profession* by the State. In the end, there will be a saving of trouble to himself, and a great benefit conferred on medical science. It is not at all probable that any fee will be allowed by Parliament for so trivial a service as this. An imposition of one shilling upon each registered death would bring, it is to be hoped, but a very small sum annually to each qualified practitioner, while it would throw an extra expenditure on the country of at least fifteen thousand pounds per annum.

We are at all times ready to maintain the right of every professional man to a full remuneration for his labour; but this does not appear to us to be a case in which it can be reasonably claimed. The act of signing a certificate of the cause of death involves no special service to the State, and confers no benefit on any individual: the medical practitioner is supposed to be remunerated for his attendance on the deceased, and it would cost him no more trouble to put in writing the cause of death than it would to write down the name of the person and the period during which he attended him. "D. R." compares the written statement with the certificate required by an Insurance Company; but this is mere sophistry. The Insurance Company is a private trading corporation, receiving considerable profit from the acceptance of lives; this profit being in part derived from the documents which the Company endeavours to extort gratuitously from members of the medical profession. In such a case, medical men are not bound to give either a *verbal* or a written statement of the facts; and it is their own fault if they do this without remuneration. Medicine, as a science, derives no benefit from correct insurance certificates, and they cannot improve our knowledge of the treatment of disease, or its influence in arresting the spread of epidemics. Correct registration returns will, however, do this, and much more.

Under the mercenary view adopted by "D. R.," the Registration Act would totally fail in its objects, so far as one important branch of vital statistics is concerned. The causes of death must be registered by quacks* and village nurses. Some complaints on this head have already reached us, but there is no help for it. If practitioners will not lend a little gratuitous aid on a matter which does not involve professional skill or labour, and creates so little demand on their time, they must not be surprised to find an unscrupulous class of persons usurping their duties. It is, however, a new fact to us, that a Fellow of the College of Surgeons should lend his aid to do all possible damage to a most useful Act of Parliament, and to

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* In a contemporary journal, of the date of March 15, we find the following letter addressed to the Editor:—

"THE REGISTRAR-GENERAL AND UNQUALIFIED PRACTITIONERS.

"*To the Editor of* THE LANCET.

"In the village where I practise, an individual, totally unqualified, has been likewise illegally doing so for some years, having engraved on a large brass plate, placed on his door, 'Surgeon.' Understanding that he is in the habit of writing certificates of causes of death, and our district registrar of receiving them, I wrote to the registrar-general to ascertain if the district registrar could accept them from an unqualified man, and knowing him to be such. The registrar-general, in reply, sent me a polite note, and a form, from which I can merely glean that unqualified men are *recommended* not to fill them up. Yet our district registrar not only takes this man's certificates, but actually supplies him with the printed forms to be filled up and signed. * * * I once thought that qualified practitioners had some few privileges left untouched; but when I see ignorant, illegal practitioners, carrying out their plans without molestation, I question very much the use of expensive medical education and subsequent qualification. I have hitherto been particular in recording the cause of death, but this damps my zeal not a little.

Is it not singular that no means can be used to put a stop to this illegal system? This man was merely taught to dispense, came here when no qualified man was in the place, and since I have been here, has been supported by two practitioners in neighbouring villages. When qualified men, from petty jealous feelings, will countenance an illegal practitioner to the detriment of a brother member, how can we be surprised at quacks succeeding?

The incomprehensible inconsistencies are the accepting of cause of death certificates from illegal men, and the apparent want of power to punish a man who, by perjuring himself, illegally gives evidence as a qualified practitioner before a coroner.

Your most obedient servant,

March 3, 1851. M.R.C.S.E.

*** This case requires the consideration of the Registrar General, and we advise our correspondent to address that important public officer on the subject.—Ed. L.

[We extract the following letter, which appeared in the same journal on Saturday last.]

"Sir,—Last Saturday's Lancet contains a letter, signed "M.R.C.S.E.," complaining of the reception, by district registrars, of certificates as to the cause of death by unqualified practitioners.

"I think this, sir, is a subject calling loudly for redress; and the question immediately suggests itself—Has the district registrar the power to refuse a certificate bearing the title of 'Surgeon' &c. after the signature? If he has this power, and knowingly receives the certificate of an unqualified man, then is he guilty of a dereliction of duty; but if, as was lately stated to me by a district registrar, his duty is merely to obtain the best information he can touching a death, then *does the fault lie with the registrar-general, in not enforcing a stricter observance to what is due to himself, the public, and to qualified practitioners*; and this, I think, only requires to be pointed out in your able journal to meet with immediate attention.

"That the occasional refusal of unqualified or illegal certificates, by certain district registrars, is apparent, from the case detailed in the Lancet of Nov. 22, 1850, where the district registrar of Market Drayton, with a most praiseworthy exercise of his duty, upon receiving a certificate of death from a party he ascertained to have no qualification, "*was* firm in his legal duty, and positively refused his certificate." The consefind him higgling about committing his reputation to a *written* certificate in a case in which the law would compel him to make a *verbal* statement. The distinction, if any, is a jesuitical one, and unworthy of a member of a liberal profession.*

A case of considerable importance to the medical proprietors of Lunatic Asylums has been tried at the Maidstone Assizes during the last week. Dr. Maddock and Mr. Perfect, the Proprietor and the Medical Officer of a Lunatic Asylum at Malling, in Kent, were indicted by the Commissioners of Lunacy for a misdemeanour in having made false entries in the books of the establishment, representing that no personal restraint, during a certain period, had been used towards any of their patients. The defendants pleaded guilty, for the reason, as stated by their counsel, that they wished "to spare the feelings of the relatives of the unfortunate persons under their charge, and to avoid the necessity of making their names known to the public."

In mitigation of punishment it was urged—

"that the act of Parliament under which the indictment was framed did not appear to give any very clear definition of what was to be considered restraint. He (the counsel for the accused) did not think that the mere act of putting on a straight waistcoat for a short time could be considered a restraint, and it might frequently happen that the servants in an establishment of this kind might use restraint to the patients without informing the principals of the fact and under these circumstances he submitted that the act of t hedefendants ought to be regarded more in the light of a formal omission than as a grave offence. With regard to Dr. Maddock, he was instructed that he was strongly opposed to the use of personal restraint to unhappy persons of this description, and it was probably from a feeling of vanity that he desired it should appear that less coercion was employed in his establishment than was actually made use of. It had been suggested that the coercion had been required by reason of the parsimonious manner in which the establishment was conducted, and the non-employment of a sufficient number of attendants; but he should be able to show that there was *no foundation* for this suggestion, and that Dr. Maddock had expended a considerable sum in improving the buildings, and in providing a carriage and horses, musical instruments, and various kinds of amusements, for the unfortunate persons intrusted to his charge. With regard to Mr. Perfect, he was merely the medical officer of the establishment, and it was impossible for him to have had any motive for not making the entries. He was merely the visiting surgeon, and the making of the entries could not possibly have made any difference to him."

Several witnesses, who had had friends

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quence was, the burial was delayed till an examination and a certificate from a legally qualified practitioner was obtained. If all registrars would act in this most laudable way, illegal practice would receive a great check.

"Why should not every district registrar be empowered to inspect the qualifications of all practitioners who are unknown to him?

(Signed) "M.D."

⁂ Verily, the Registrar-General is in a peculiar predicament respecting his blank certificates. One set of men in the profession decline filling up these certificates because the law does not compel them to give more than a *verbal* statement. Another set accuse him of incomprehensible inconsistency because he accepts "cause of death certificates from illegal men." It does not appear easy to satisfy both parties; but the Registrar-General might fairly reply—"If legally qualified practitioners will not aid me in my duties, but, on the contrary, will persist in throwing every obstacle in the way of their performance, I have no alternative but to take certificates from unqualified practitioners."

We agree with the writers of these two letters. The signature of such certificates is a duty which all qualified men should undertake. The censure of the Registrar-General, considering that he has to deal with such qualified men as "D. R.," is quite uncalled for and undeserved.

* Members of the clerical profession are frequently called to give certificates of their having seen and visited aged or bed-ridden persons; and except by the production of these certificates, dividends and other payments could not be made to annuitants. In such cases an onerous and often troublesome service is rendered to a private individual, but we have never heard of a fee being demanded by the clergyman.

or relatives in the Asylum, were called to show that they had not been subjected to any harsh or improper treatment; and in reference to an observation that a female had on one occasion been put under restraint, Mr. Baron Parke said—

"There can be no doubt that restraint must be resorted to in some cases, and the object of the act of Parliament is that an entry of the fact should be made, so that the visiting justices or others may have their attention called to it, and ascertain under what circumstances the coercion was resorted to.

"Mr. Horne, counsel for the defendants, then called his Lordship's attention to the books kept in the establishment, and stated that it appeared that a number of entries were made of cases where personal restraint had been resorted to, although undoubtedly there had been omissions during the same period.

"Mr. Bodkin, counsel for the Commissioners, said, it was not denied that there were some entries made, but during the whole period referred to in the indictments, false representations were made with regard to the patients who were enduring the sort of coercion that had been referred to.

"Mr. Horne here made some allusion to the visiting justices, and said that they ought to have been aware of any irregularity that was going on.

"Mr. Bodkin said, it would appear by the depositions that when the visits of the justices were expected all restraint was removed, and the instruments of coercion were put out of the way by the direction of Dr. Maddock.

"Mr. Baron Parke observed that one of the effects of making false entries was, to prevent the proper inquiries from being made."

During the examination of one of the witnesses, a pair of handcuffs and a body-strap was produced, and the witness, a keeper in the service of the defendant, was asked whether he had seen such instruments made use of since he had been at the Asylum. His reply was in the negative; and—

"Mr. Baron Parke said, of course, under particular circumstances, such instruments must be made use of; but what the act required was that when it was done the act should be recorded."

The gravamen of the charge against the defendants appears to have consisted in the allegation that they did not keep a sufficient number of attendants, and that the patients were confined while these attendants were engaged in other duties. The statements, however, chiefly rested upon the evidence of a servant who had left the asylum. As the defendants had pleaded guilty, the whole of the facts did not transpire. In passing sentence

"Mr. Baron Parke said there could be no doubt that this was a most proper prosecution by the Lunacy Commissioners, and that they had most properly put the law in force on the present occasion. The defendants had thought fit to plead 'Guilty' to the offence of misdemeanour, one undoubtedly of a serious kind, but on which, at the same time, he did not feel himself called upon to inflict a sentence of imprisonment. The present proceedings would no doubt operate as a warning, and they would take care in future to make the proper entries. With regard to the observation that had been made upon the subject of the law, and what was to be the description of restraint that would require an entry to be made, it appeared to him utterly impossible to misapprehend the intention of the act of Parliament, and it was perfectly clear that in every case where *any mechanical restraint was resorted to, the act required that the fact should be entered on the books of the establishment, and thus be brought to the notice of those whose duty it was to inquire into such matters.* It was the duty of the defendants to have made such entries, and having failed to do so they were properly amenable to the present charge. Under all the circumstances, however, he thought the justice of the case would be satisfied by the defendants being called upon to pay the expenses of the prosecution, which he understood were about £150, and he therefore should order the defendant, Dr. Maddock, to pay a fine of £50 upon each of the indictments to which he had pleaded guilty, and Mr. Perfect to pay a fine of £50 upon the single indictment that had been preferred against him.

"The fines were paid, and the defendants were then ordered to be discharged."

This case conveys a most important caution to all who are connected with Lunatic Asylums. It may produce a disagreeable effect to see in the books frequent entries of the use of restraint; but such is the law, and whosoever violates it must take the consequences. Means may be adopted for avoiding the frequent imposition of restraint, but the medical officer should not omit to specify the number of times that it has been employed; and on no account should an entry be made calculated to deceive or mislead the visitors of an asylum.

THE subjoined important document has been recently issued by the Council of the Royal College of Surgeons. The Resolutions, it will be perceived, embrace material alterations in the charters and bye-laws of the College, which are intended to meet the views of the large majority of medical practitioners. The College have requested the sanction of the Secretary of State to these alterations, so that they may be speedily carried into effect, and the foundation of a third and inferior College of General Practitioners rendered unnecessary:—

Resolutions of the Council of the Royal College of Surgeons of England, respecting certain further Alterations deemed necessary in the Charters and Bye-Laws of the College; and to which they request the sanction of the Secretary of State for the Home Department.

19th and 24th March, 1851.

"1. That in the opinion of this Council such parts of the Charter and Bye-Laws of the College as restrict the eligibility to the Council to Fellows residing and practising Surgery within five miles by highway or road from the General Post-Office in Saint Martin's-le-Grand, should be abrogated.

"2. That in the opinion of this Council such parts of the Charters and Bye Laws of the College as restrict the eligibility to the Council to Fellows not having during the five preceding years practised Midwifery or Pharmacy, and require a Certificate thereof by three Fellows, should be abrogated; and that instead thereof a Certificate by three Fellows, and a Declaration by himself, that the person nominated to be balloted for as a Member of the Council does not practise as an Apothecary, be required.

"3. That it is the opinion of this Council that the Medical Qualifications of those about to engage in the practice of Surgery, or in General Practice, should be tested by the Royal College of Physicians.

"4. That the Council of this College are prepared to form and superintend a Board of Examiners in Midwifery, or to co-operate with the Royal College of Physicians in the institution of Examinations for testing the qualifications of Practitioners in Midwifery.

"(By order)

"EDMUND BELFOUR, *Secretary*."

Reviews.

1. ***Henke's Zeitschrift für die Staatsarzneikunde.*** 4. Viertelyahrheft, 1850.
2. ***Idem.*** 41. Ergänzungsheft.

THE above two numbers of this medico-legal periodical contain several articles deserving of attention. The first of these, by Dr. Rösch, is devoted to the subject of ***Alcoholic Poisoning***, or rather to the morbid appearances to which the abuse of spirituous fluids may give rise in the human body. As a type of ***chronic*** poisoning by alcohol, Dr. Rösch adduces the abnormal alterations which he has encountered in his judicial inspections of drunkards who had perished by accidents or by their own hands. These he enumerates as follows:—viz 1. Thickening and opacity of the arachnoid; effusion of serum on the surface of the brain, into the cerebral ventricles, and within the spinal canal; adhesions between the different membranes of the brain, or behind the dura mater and the walls of the cranium: 2. Pulmonary œdema, with fluid in the air-cells and smaller air-tubes; adhesions of the lungs to the chest and diaphragm, and interlobular emphysema: 3. Isolated bright red patches on the interior of the stomach and smaller intestines, with attenuation of the inner and middle coats of the latter, and enlargement of Peyer's glands: 4. Wasting and pallor of the muscles generally, with flaccidity of the heart, and attenuation of its walls: and this, 5. coincidently with superabundance of fat in the subcutaneous and intermuscular areolar tissues, and about the mesentery, the heart, and the kidneys, and with the fatty liver: and 6 The blood dark and fluid, and the spleen more or less softened.

To this our own experience in the same class of subjects enables us to add a few other changes which this writer has omitted. Thus unusual smallness of the stomach is not unfrequent; generally accompanied with hour-glass contraction of the organ. Even when previously pale, the mucous coat of the stomach of drunkards usually takes on a diffused redness on a short exposure to the air, the colour being deepest along the summits of the rugæ. The colon is sometimes found contracted. Cirrhosis of the liver is almost general in such subjects; its hypertrophy more rare. The kidneys are either bulky and highly congested, or pale and atrophied; the urine in either case being albuminous, but unattended with dropsy. We have never met with œdema of the lungs in our inspections, and in these the spleen has been almost invariably enlarged and hepatised.

In the cases of *acute poisoning* by alcoholic fluids in *infants*, witnessed by Dr. Rösch, death was preceded by convulsions; two instances of which he details. This is consonant with our own experience. His examples of acute poisoning in *adults* are less happily chosen, as in those he has adduced, exposure to cold had been superadded to the direct effects of the alcohol. The characteristic appearances which they presented were sanguineous congestions within the head and in the upper part of the spinal canal.

Infanticide.—Of this crime, the quarterly part and the supplementary number together afford us six instances. That by Dr. Roth, in the former, is given by him in illustration of the slow development of decomposition in the lungs of the new-born infant, and the consequent possibility of determining the fact of respiration at late periods after death.* The proof of live birth in this case rests, however, on very weak data, being assumed from the finding of the chest arched, the lungs expanded and red, meconium in the cloths which enclosed the infant, and the bladder empty. No medical jurist of any note in this country would rely on such appearances as these, especially if, as in this infant, he discovered that the only portions of the lungs which were free from vesicles of fetid gas sank in water. The expansion of the chest seldom admits of verification. The meconium is occasionally known to be discharged, even by the dead infant, during the progress of laborious or tedious labours. It is not very unusual to meet with an empty state of the bladder in *still-born* children; nor does the colour of the lungs always of itself suffice to distinguish infantile lungs which have naturally received air, from those which have not.

In addition to the above questionable assumption, Dr. Roth has advanced some loose statements in connection with this subject. Thus, at p. 347 he says, that by closing the nostrils of a still-born infant, the operator, by blowing into its mouth, will succeed in fully expanding its lungs,† and (p. 348) that such inflation can be distinguished from the effects of natural breathing by the want of expansion in the chest. Again (p. 349), he gives it out as a well-attested fact, that the infant may cry in the uterus even before the escape of the liquor amnii! Further (p. 357), the protrusion of the tongue beyond the closed jaws is relied on as a sign of death by suffocation, as if this position of the tongue was not common in infants after death from natural convulsions. Once more (p. 360): a cause of death compounded of apoplexy and suffocation is assigned to the infant.

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* We are acquainted with a case of this kind brought to trial, where the child had been exposed in a recess between two walls during three or four months. It should be known that in rare instances the lungs *may be the first* of the viscera to take on the putrefactive process,—a well-marked example of which we lately witnessed.

† Dr. Roth offers no proof of this assertion, unless we are to receive as such the result of an experiment which he instituted on a still-born infant. But here, although he had previously laid open the cavities of the chest and abdomen, he did not succeed in completely inflating the lungs. It is of no use to tell us that he *could* have done it but for the danger of the stomach bursting from its distending simultaneously with the lungs.

The same mode of death (apoplektisch-suffokatorischen tod) is fixed on in another of the cases (Henrich, p. 480).

One of the reports in the supplementary part affords us an instance of purely *imaginary infanticide*. The female who had accused herself of having destroyed a living child of which, she stated, that she had secretly been delivered, was concluded to be labouring under a monomaniacal delusion. She afforded no indication of recent delivery. She was otherwise sane.

Rape.—A report, by Dr. Schwartz, on a case of alleged rape, brings out prominently the conflict of opinion amongst our German brethren as to the possibility of violating a vigorous female in the full possession of her senses, and of pregnancy following an involuntary sexual intercourse; both of which, as abstract questions, were on this occasion decided by the court in the affirmative.

In the supplement we have likewise the proceedings, reported by Dr. Henrich, in one of those charges of libidinous practices which have of late become frequent in some of our large towns, and the proof or disproof* of which is often attended with no ordinary difficulties. In the case before us there had obviously been nothing approaching to vaginal penetration, and no violence of any serious kind done to the external genitals. The child, however, suffered from inflammation and purulent discharges from the vulva and urethra, succeeded by purulent ophthalmia. The accused party had gonorrhœa at the time, which rendered his guilt, if not certain, at least highly probable.

Some of the conclusions of the reporter in this case do not appear to us to be very correct. Unaware, obviously, of the facility with which trifling abrasions of the external genitals may be caused by the male organ on such an occasion as the one in question, and ignorant, apparently, of how frequently, and for what purposes, these libidinous touches are practised by diseased adult males, he concludes that the injuries and the disease had both been occasioned by the finger of the accused, and could not have been produced by the approach of the penis. Nor can we place much reliance on the diagnostic marks which, in his opinion, distinguish the spurious from ordinary gonorrhœa in infants. Contrary to what he has assumed, we believe that the character of the discharges, and the rapidity with which the disease progresses, will in either case be more dependent on the violence of the inflammatory action, than on the specific or non-specific nature of its origin. Equally erroneous it seems to us to contend that the spurious gonorrhœa of female infants does not begin spontaneously, and that it is never followed by purulent ophthalmia. We have witnessed proofs of the contrary.

Presumed Poisoning by Nitrate of Mercury.—Dr. Völkel gives the history of a person who died in five days with all the symptoms of irritant poisoning, which came on immediately after partaking of a dumpling under very suspicious circumstances. During life metallic mercury was observed in his discharges, and after death globules of it were collected in the stomach and intestines, as well as a few seeds, which, under the microscope, looked like those of hyoscyamus. No acid of any sort could be detected in the alimentary canal. The stomach and smaller intestines were highly inflamed, and the mucous coat of the former detached from the muscular. There had been no salivation or metallic taste in the mouth, and nothing is said of the throat or rectum having suffered. The conclusion that the mercurial poison must have been a nitrate (the acid per nitrate) is purely inferential, resting, as it does, on the circumstance that this salt is known to, and prepared by, the peasantry in Germany for the cure of the itch. The case altogether is, however, rather anomalous.

Violent death.—Of this we have five instances in the supplementary number, two of which are rather interesting—viz., the case of a child, of three years, whose head had been crushed under the box of a mangle; and another of extensive comminuted fractures of the right side of the head, in which the cranial vault was diaphanous, and varying from one to two lines in its greatest thickness.

The editor of the journal in the quarterly part gives us an account of the regulations on the subject of syphilis and prostitution recently adopted by the

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* **It is well known to the police that children of tender years are purposely sent to the streets to solicit such bestiality, and sometimes tutored by their elders to get up sham rapes.**

Russian government in St. Petersburgh; and in the supplement he has republished the papers of Drs. Taylor and Davy* on the effects of quicklime on the progress of putrefaction in the human body.

On the Structure of the Spleen. By William R. Sanders, M.D., Resident Medical Officer, Royal Infirmary, Edinburgh. 8vo. pp. 56, with plates. Edinburgh: Sutherland and Knox. 1850.

About one-half of this instructive paper is occupied with the history of the recorded opinions of other observers. This historical sketch is of some importance to the understanding of the subsequent portion, which consists of the author's original observations. The following remarks present briefly Dr. Sanders's observations on several of the structures which compose the spleen.

Malpighian bodies,—*glandulæ* or *sacculi*.—These are several small spherical bodies, occurring in great numbers, imbedded in the red pulp. Each of these bodies consists of a vesicle attached by a pedicle to a neighbouring trabecula. Its colour is dark grey, and is owing to its containing a number of minute spheroidal dark particles which fill the sacculus. The fibrous pedicle conveys a small artery to ramify on its surface, and terminates in the pulp by capillary tufts. When compressed, the sacculus presents considerable resistance; but when ruptured, the dark particles are found floating freely in a clear fluid. These particles are slightly larger than blood corpuscles, and regular in shape and aspect, having a well-defined edge and smooth surface. They are found to contain nucleoli. They vary in size from 1-6000th to 1-4000th of an inch. Other smaller corpuscles are found mingled with these. The inner surface of the saccular membrane is lined with larger globules, having a bright cell wall of a pale yellow hue, containing a nucleus and clear fluid, and varying in size from 1-1200th to 1-1500th of an inch. There are also larger cells containing two or three nuclei.

The plasma in which the Malpighian bodies float is a clear, white, transparent fluid, sometimes faintly granular; and where the corpuscles contain numerous dark nucleoli, free dark granules are seen abundantly in it.

The pulp or parenchyma of the spleen consists of corpuscles and granules, coloured particles of a crystalline appearance, fusiform cells, and a semi-membranous plasma, intersected by a capillary plexus, and crossed by bands of trabeculæ.

Enclosing and supporting these structures are the fibrous capsule and fibrous processes or trabeculæ by which the organ is divided into compartments.

The splenic blood-vessels present peculiarities. They are large in proportion to the size of the organ; the coats of the artery are thicker than those of the aorta in the proportion of 1312 to 1000. The calibre of the vein is twice its usual proportion to that of the artery, while their coats are only one-third as thick. The distribution of the vessels is first dichotomous, and next by numerous branches,—very small indeed, as compared to their trunks: these last arise at right angles to the trunks, and at their extremities they form a terminal tuft or pencil.

The arteries accompany the trabeculæ or partitions, while the veins form canals in the compartments.

The whole blood circulation of the spleen thus performs a short circuit, from the large to the small branches, from these to the plexuses or tufts of capillaries, from these to the veins.

The preceding indicate some of the chief facts contained in this important contribution to anatomy. For the full comprehension, however, of each of these structures, and of their relations to each other, the reader is referred to the work itself, where they will find each point amply discussed.

The secretion of the spleen, the author observes, is probably some albuminoid material, but adds that, on this part of the subject, further investigations are yet required.

The author has ably executed the task which he has undertaken, and has rendered considerable service to the study of anatomy by this admirably full and lucid description of the structures found in the spleen.

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* Vide London Medical Gazette, vol. xlv. p. 17 and 172.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

February 18, 1851.

DR. LATHAM, PRESIDENT.

MR. WM. ADAMS exhibited a series of specimens illustrating the

Formation of New Bone in Chronic Rheumatic Arthritis, from the Hip and Knee-joints.

In the hip was seen:—1st. Great enlargement and irregularity of form of the head of the femur, which assumes a mushroom-like form, in consequence of real or apparent flattening of its upper part, and nodulated masses and flattened ring-like layers of new bone surrounding the edge of its articular cartilage, and extending to a variable distance over its articular surface. To this mushroom-like form, the apparent shortening of the neck, in consequence of its upper part being connected to the overhanging margin of new bone at the edge of the articular cartilage, also contributed. 2dly. Absence of articular cartilage to a greater or less extent, and the eburnation of the bony surface. 3dly. Nodulated masses of new bone, from the size of a hemp-seed to that of a walnut, attached by their peduncles to the synovial membrane on the neck of the bone, or to that of the capsular ligament,—more or less spherical when small, but flattened and irregular when of large size.

In the os innominatum—1st. Increased capacity of acetabulum. 2dly. Ossification of the fibro-cartilaginous rim. 3dly. Absence of articular cartilage to a greater or less extent, and eburnation of the bony surface. 4thly. Irregular osseous growths on the surface of the bones external to and immediately surrounding the joint.

In the knee-joint, osseous growths of irregular form surrounded the margins of the articular carticular cartilages of the femur and tibia; and pedunculated osseous growths, in considerable numbers and of all sizes, were attached to the synovial membrane, both in the notch and lining the capsule. The articular cartilage on the condyles of the femur presented a thickened nodulated appearance in their central parts.

With respect to the mode by which the enlargement of the head of the femur is effected, Rokitansky observes,[*] "I hold it to be an inflammatory process of a gouty character, which gives rise to rarefaction, swelling, and a peculiar deformity of the head of the femur and acetabulum—an osteoporosis succeeded by induration." And again,[*] "The process by which this change is produced is a painful one, consisting without doubt of an inflammatory rarefaction, swelling, and softening of the bone. After furnishing an osseous exudation within the tissue of the bone and all around—an exudation which may be distinguished by its form and chemical composition—it terminates in consecutive induration."

Mr. Adams considered that this increased size of the articular extremities of bones was produced by a growth of new external to the old, to the surface of which it became inseparably connected. The chief evidence in favour of this opinion was the condition observed in sections through the enlarged extremities, the outline of the head of the bone being generally traceable in its normal direction, and indicated to a greater or less extent by the thin shell of natural compact tissue, and a layer of articular cartilage.

External to this layer of cartilage, and extending to a variable extent from the circumference to the centre of the head, was a mass of finely cancellous new bone, which produced its irregular shape, and enlargement, generally of an irregular wedge-like form; its base rounded, projecting beyond and overhanging the edge of the articular cartilage, and its apex directed towards the centre of the head of bone lying on its articular surface, and being covered by a layer of cartilage; so that the mass of new bone was situated between two layers of cartilage, one belonging normally to the head of the bone, the other covering the articular surface of the new bone. In one specimen, the wedge-shaped portion of new bone measured an inch in length, and a quarter of an inch in breadth, at its base; its apex corresponded to the centre of the articular cartilage, which at this point was somewhat thicker than natural, and had the appearance of being split into *two layers* by the advancing ossification; one layer passing over the articular surface of the new bone, and the other between *the* new and the old bone. In most sections the last described layer was thicker than the former.

These appearances seemed to warrant the conclusion that the new bone had been developed in the centre of the articular cartilage. In some instances ossification had increased equally in every direction, so that rounded osseous-like growths were formed: and in others it extended as a ring-like layer over the articular surface, thick and rounded at the circumference, narrowing to a point towards the centre of the head.

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[*] Rokitansky's Pathological Anatomy, Sydenam Society's edition, vol. iii. p. 171.

[*] Vol. iii. p. 200.

Sections through the prominent nodules in the central portions of the cartilage on the condyles of the femur, showed these prominences to depend upon irregular hypertrophy of the cartilage, generally containing a point of ossification. The process here could be traced from its commencement. As ossification of these nodules advances, a junction with the articular surface of the bone is soon effected, and the thin limiting layer of compact bone becomes partially absorbed; the appearance on section being that of a continuous mass of cancellated structure. The gradual disappearance of the articular cartilage between the central point of ossification and the articular surface of the bone may be traced in different sections. In consequence of this juncture, which seems invariably to occur at different periods, these growths have uniformly, so far as Mr. Adams's observations have extended, a broad base, and therefore never become pedunculated, or form loose cartilages.

The microscopical examination of the process of ossification above described was imperfect, as the specimens had been many years in spirits. Near the point of ossification, the elongated groups of cartilage cells seemed gradually to break up by the separation of the individual cells from each other: instead of an elongated group of three, four, or five, compressed cells, with flattened nuclei, the cells assumed a perfectly spherical form, with spherical nuclei of increased size, and were still arranged more or less perfectly in rows, lightly touching each other. Next, these cells were completely separated from each other, and scattered without any arrangement. The cells were also somewhat irregular in form, and the intercellular matrix presented a faintly granular appearance. A little nearer the osseous centre, the intercellular substance presented a delicate filamentous appearance, which gradually increased, the cartilage cells being scattered between the fibres. The cells in this part appeared to be greatly diminished in number, and the nuclei only were apparent; the surrounding cell wall had either disappeared or could not be traced; many of the nuclei were irregular in outline, angular, and elongated; some fusiform, as if in process of development in fibres. There were no indications of this process where the delicate filamentous appearance was first observed in the intercellular substance. The fibrous tissue increased in quantity and density to the edge of the nodule of bone, where its fibres were infiltrated with earthy salts: it did not appear to have any definite disposition, though in some sections there was an appearance of its spreading in curved lines enclosing elongated oval meshes in which several nuclei were clustered.

The osseous matter presented to the naked eye, and also under the microscope, the ordinary appearance of finely cancellous bone; lacunæ, with short canaliculi, being found in the thicker portions of the osseous walls of the cells.

If this view of the formation of these growths be correct, it explains the mode in which the articular extremities become enlarged in this affection, and proves the expansion theory (of the soundness of which, as applied to the inflammatory process in bone, Mr. Adams entertains considerable doubt) to be inapplicable to a large class of cases, the phenomena in which have generally been adduced, especially by Rokitansky, in illustration of the expansion process.

These new superadded osseous growths are at once distinguished by their situation, either at the margin or in the centre of the articular cartilage, and by their broad bases, from the pedunculated osseous growths above adverted to, which, either solitary or in clusters, are so frequently found attached to the synovial membrane near the borders of the articular cartilage on the neck of the bone, in the notch between the condyles of the femur, and in all parts removed from direct pressure. The formation of these pedunculated growths, unusually numerous in the knee-joint exhibited, could be satisfactorily traced, and shewn to commence in the synovial fringes or glands first described by Mr. Rainey.

March 4, 1851.

Dr. **Peacock** exhibited a heart in which the membrane closing the foramen ovale was very greatly expanded, so as to form a cavity of considerable size, opening from the right and protruding into the left auricle. The membrane was not completely adherent at the margins, but the expanded portion was entire, and no communication had apparently existed between the auricles. The heart, and especially its right side, was hypertrophied and dilated, but there was no valvular disease.

The specimen was removed from the body of a female, æt. 54, who died shortly after her admission into St. Thomas's Hospital, and of whose history no satisfactory information could be obtained. It was ascertained that she had been ill at least two years, and old and extensive disease of the lungs was found after death. A small cavity existed at the apex of the right lung, and the rest of the pulmonary tissue was extensively consolidated, and the bronchial tubes were diseased.

Mr. **Nathaniel Ward** exhibited three specimens of

Medullary Cancer:

two developed in the interior of the radius, and the third springing from the periosteum of the carpus.

Case I.—A sallow, unhealthy-looking man came under Mr. Luke, in the London Hospital, with a swelling in front of the right forearm, immediately above the wrist, appearing like a chronic abscess under the fascia, except that there was a slight bulging at the back of the forearm, and here in the situation of the radius a thin convex stick of bone was detected. The radial artery pulsated distinctly over the front part of the tumor, and the flexor tendons were traced over it. When the wrist was rotated the lower part of the radius only rolled with it to the same extent; so that an interruption to the direct continuity of the bone had taken place. The use of the hand was not much interfered with; flexion and extension of the wrist-joint, and of all the fingers, was readily performed. On puncturing the swelling in three places, a bloody, serous-looking fluid escaped.

The patient discovered indications of the disease thirteen months ago, and attributed it to a violent strain, immediately followed by diffuse swelling at the wrist. This never entirely subsided, remained stationary for six months, and then gradually increased till his admission. The local sensation was superficial and slight; he had had painful sensations occasionally about the elbow and shoulder during the last two or three months. No disease could be detected there, and the axillary glands were unaffected. It was concluded that the disease was either cystic, or cystic in combination with cancer. The forearm was amputated, and a vertical section made through the shaft of the radius. Two inches and a half of the bone was involved in a tumor, extending forward from the cancellated structure, which it had replaced to the extent of two inches, and having a vertical measurement of 3⅝ inches backwards to the extent of one-third of an inch. The immediate covering was an attenuated shell of bone, well marked behind, but all but fibrous in front. The substance of the tumor was composed of medullary cancer, mixed with fibrinous deposit and some coagula, and pervading it were a large number of various sized spheroidal cysts, with membranous walls, some isolated, others communicating together and containing bloody serum. One or more of these had been tapped by the grooved needle.

Case II.—A woman, æt. 44, came under Mr. Luke with a circumscribed swelling, involving the lower part of the right radius: the soft parts were protruded in front and behind, more in the former than the latter direction. There was no fluctuation; the swelling yielded to pressure and gave the sensation of crepitus as though spiculæ of bone pervaded it, or as though covered with a thin shell of bone. Sixteen months before this time she was quite well. Shortly afterwards, while moving a nest of drawers, she jerked her wrist. This was followed by a swelling which subsided in three weeks, leaving considerable weakness in the joint, which continued two or three months. An interval of about two months left the wrist as strong as ever; at the end of this time she observed a swelling which very gradually enlarged for the space of seven months. The local sensations were occasional darting pain when using the hand, and a mere pricking when quiet. Three weeks before admission she had a constant gnawing. The fore-arm was amputated on the 13th of February. Prior to the amputation a small exploratory incision was made into the tumor, a small portion removed, and submitted to the microscope by Mr. Quekett, who found it contained cells characteristic of medullary cancer.

A vertical section was made of the radius; its lower extremity, from the articular cartilage, which was intact, upwards to the extent of an inch and three-eighths, was replaced by a tumor of medullary cancer, measuring from before backwards about an inch, enclosed in an irregular cyst, formed by thinly expanded and attenuated bone. The colour was varied; here and there dark-red, in other parts brown, and in some greyish-white. There were no cysts, but several fibrinous deposits, and small quantities of blood, scattered throughout the malignant mass.

Case III. —— æt. 27, was admitted under Mr. Adams, in December, with a tumor occupying the lower third of the fore-arm, irregularly oval in outline, indistinctly fluctuating on pressure, giving little pain, but destroying the use of the hand. The motion of the wrist-joint was perfect, and the tumor appeared to grow from the periosteum.

A moveable tumor appeared on the palmar aspect of the right wrist about four years ago.

This increased slightly until nine months prior to her admission, when it had attained the size of a filbert. It was not painful, but interfered with the use of her hand. It remained apparently stationary for two months, when it again made rapid growth, interfered with rest, and obliged her to give up work, and in about eight weeks had attained the size of a large walnut, the superficial veins having become prominent. Fluctuation was distinct at its outer side, and here the skin being very thin, a longitudinal incision was made, and a quantity of gelatinous fluid escaped, presenting under the microscope no appearance of a malignant character. The wound had healed in four weeks; the patient became free from pain, and could use her hand. The tumor, of which a small portion remained, was painted over with iodine, and iodide of iron prescribed. About a month elapsed before the recurrence of the enlargement, which then took place with great rapidity, more particularly for a fortnight before she came into the hospital.

The fore-arm was amputated about nine days after her admission, and the tumor was found to consist of medullary cancer. It had exactly the appearance of brain, being soft and of a greyish-white colour. The lower part was connected with the periosteum of the scaphoid and lunar bones, its apparent origin: the upper with the sheaths of the flexor tendons, the bulk of the tumor being placed between the deep and superficial tendons, the latter being as it were imbedded in the front part of it. It measured about three inches from above downwards, and one and a half inches from before backwards.

Mr. Holthouse exhibited specimens of

Encephaloid Tumors connected with the Skull, Dura Mater, and Brain,

removed from a girl fifteen years of age, of small stature, and unhealthy appearance, who was admitted into the Westminster Hospital for a hard glistening tense swelling, situated just above the outer malleolus of the right leg. This first made its appearance about three weeks before her admission, and came on without any assignable cause. Mr. Lynn, under whom the patient was admitted, regarded it as of a scrofulous character at first; but the rapid growth and pain, attended with softening and vascularity, induced him subsequently to regard it as a case of fungus hæmatodes: the limb was amputated, above the knee, on the 25th of September, being six weeks from her admission, and nine from the first appearance of the disease. On the 30th of November the stump had healed, and the general condition of the patient having much improved, she was discharged.

A few days after quitting the hospital she began to suffer pain in the right eye, which was observed to bulge; the gland in the right groin also became enlarged and painful. Shortly after this a swelling made its appearance on the right temple, followed by others on the top of the head and forehead: these were all extremely painful, and prevented her obtaining rest: she suffered from dyspnœa and pain in the chest, from the parietes of which, on the right side, a small tumor projected. On the 28th December hæmorrhage took place from the eye, which was one large mass of fungoid disease, and the bleeding recurred frequently till the day of her death. Three weeks before this she became hemiplegic and speechless, though sensible: she died on the 9th February, 1851.

Examination.—Masses of encephaloid cancer were found in the cavities of the head, chest, and abdomen. The specimens exhibited were connected with the first-named cavity; some of these masses appear to have originated from the inner table of the skull, others from the dura mater, and others apparently from the cerebral substance itself. Those from the inner table appeared to communicate through the diploe with the tumors on the exterior of the skull, these being about the size of a walnut, soft, elastic, and situated between the bone and pericranium. But there were several on the exterior, opposite which no tumors were found on the interior; nor is the entire thickness of the skull in any part destroyed, so as to allow of a direct connection between the tumors on the exterior with those on the interior of the skull. The tumors connected with the dura mater were directed inwards towards the cerebral hemispheres, and either loose in depressions on their surface, or directly adherent to them, so as not to be separated without tearing. In these it was uncertain whether they originated in the brain, and subsequently became attached to the dura mater, or whether they commenced in this membrane, and afterwards became adherent to the brain.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

March 4, 1851.

Sacculated Aneurism of the Thoracic Aorta.

Mr. Hey.

The patient was a female, æt. 36, married, healthy looking, and had always lived regularly. Rather more than a year ago she was much fatigued, and dated her ailment from that period. Her first symptoms commenced about two months before she applied for medical aid, and consisted of pain in the cardiac region, palpitation, and a cough with expectoration tolerably abundant. After the appearance of the catamenia the palpitation was always much relieved. She applied to the Dispensary in Jan. 1850.

The physical signs in the chest at this time were dulness on percussion on the right side of the sternum over the second and third ribs, prolonged expiration and tubular breathing, with a few large mucous crepitations. *There was no murmur either in the cardiac region or in the course of the large vessels*, and the pulse at each wrist was perfectly equal.

The symptoms were so much relieved in the course of a fortnight that she discontinued her attendance for above two months, when a pulsating tumor made its appearance between the second and third ribs on the right of the sternum, about the size of a large walnut. It had the heaving character and strong impulse of an aneurism, but there was "*no purring tremor*" *on the application of the hand, nor any morbid sound* to be heard either in front of the chest or behind. Both sounds of the heart were perfectly natural.

The general symptoms had again become very distressing, viz. palpitation, with pain about the heart. Her countenance was anxious, and dyspnœa urgent on the slightest exertion.

The means employed afforded great relief, and the patient remained comparatively free from the distressing symptoms for a few weeks. The tumor had then only slightly increased in bulk externally, but the dulness in the chest had extended greatly. No morbid sounds even now could be detected either in the tumor or in the heart or large vessels, nor was there any thrill. In the scapular region of the right side there was a bulging out of the ribs, and above the right clavicle considerable fulness. The chest in these situations was preternaturally resonant, and the breath sound feeble. Evident marks of pulmonary emphysema.

Palpitation had returned, rushing noises in the ears, turgidity of the veins of the head and neck; pain down the inside of the right arm, with severe pain in the tumor. Relief was given from these symptoms by the occasional application of leeches in the vicinity of the tumor, digitalis and belladonna plaster, with the application of cold lotions to the tumor, and dry diet. Matters went on much the same, with occasional exacerbation of the symptoms, for about six months. At that time the patient received some distressing news which agitated her exceedingly, and this hurried on the disease to a fatal termination very rapidly. The tumor increased externally in size; the skin over it become hot and red, and the cutaneous veins considerably enlarged; it extended from the acromial end of the right clavicle to about an inch on the left of the sternum, and from the level of the right clavicle downwards nearly to the upper margin of the liver. The sounds of the heart were still natural, and could be heard all over the tumor. The pulse at the wrists was equal, but very feeble.

On Dec. 22d effusion into the right pleura took place, and on Dec. 23d into the left pleura; the integuments above the tumor became œdematous, and she died on Dec. 25th, gradually asphyxiated.

Sectio cadaveris.—On opening the chest, the tumor was found to occupy a considerable portion of the right side of the chest, and to encroach somewhat on the left. It had caused absorption of part of the clavicle, of the first five ribs, and of the sternum. The body of the second dorsal vertebra was also slightly eroded; the tumor was filled with coagulated blood mingled with fibrinous coagula; the aorta from its commencement for about two inches was much dilated, and above that point the aneurismal sac commenced and extended to a point just short of the left subclavian artery; the arteria innominata and left carotid artery sprung from the aneurism, but were not themselves dilated; the aortic valves were healthy, but in the dilated portion of that vessel was a very small portion of bony deposit in a scale-like form; there was effusion of serum into the pleura of both sides of the chest, and also into the pericardium.

The chief point of interest in this case was the absence, at all periods of the disease, of any *bruit* or thrill.

The chest was examined from time to time by different medical men, who all concurred as to the non-existence of those physical signs most generally present in thoracic aneurismal tumors, when presenting externally.

[Two or three cases of very large aneurisms of the aorta have been reported this year in the proceedings of the Society, in all of which there has been entire absence of thrills, and of aneurismal *bruit*, from which it would appear the absence of these signs is of comparative frequency.—J. B. S. *Sec.*]

Gangrene of the Lungs. DR. CAMERON.

David Cotter, aged 16, admitted into Southern Hospital, Jan. 22, 1851. Ill five days; fever; extreme congestion of the lungs; pleurisy of left; illness brought on by exposure to wet and cold, patient having, from utter destitution, been obliged to sleep for several nights in the streets. Slight improvement at first; subsequently, extension of pleurisy to right side.

On the 15th day of illness, great prostration of strength; rapid, small pulse, 130 to 140 in a minute; urgent dyspnœa, 40 to 50 respirations in the minute; delirium; change in the character of the expectoration, which, previously white and viscid, now became dark brown; presenting somewhat the same appearance as the usual rusty pneumonic sputa, only much darker: not fœtid. No fœtor of breath.

The physical signs indicated double pleurisy, with effusion; here and there, in circumscribed spots, a fine crepitating râle; numerous moist râles in larger bronchial tubes.

17th day.—Death at 6 P.M.; about 48 hours from the period, at which, judging from the symptoms, gangrene probably supervened.

Post-mortem. — Right side of chest: about half a pint of fluid in pleural cavity; anterior aspect of lung coated over with recently effused lymph; four small gangrenous cavities in this lung, the largest capable of holding a small walnut, situated at lower edge of third lobe; the second, not so large or well defined, at the upper and outer edge of same lobe; the third, not completely formed, at the apex of upper lobe; the fourth, at lower edge of middle lobe. Along upper edge of third lobe were two circumscribed indurations of a dark chocolate colour, about the size of a small marble.

The gangrenous spots were all near the surface; prominent, tolerably well defined, ash-grey in colour; soft and fluctuating to the touch. When cut into, they were found to contain a dark brown thick fluid, without smell, and mixed with what looked like broken-down lung; the parietes, on their inner aspect, presented a broken, irregular surface of a dark brown colour. The substance of the lung around these cavities and around the indurated spots alluded to was in an incipient state of consolidation, crepitating slightly in several parts; the colour was darker than that of ordinary pneumonic consolidation. It extended only for a few inches beyond the cavities.

Left side of chest.—Two pints of fluid effused; lung much compressed; pleura coated over with a thick layer of lymph. Three small gangrenous cavities, first and largest, at anterior and outer margin of lower lobe; second, at posterior border; third, very small, at the inferior and inner edge; several small indurations along its upper margin.

These cavities presented the same appearances as those noticed in right lung; they were, however, smaller, and with a less extent of the same imperfect solidification around them.

The cavities did not communicate with any bronchial tube.

ACADEMY OF MEDICINE, PARIS.

March 11, 1851.

Varicose Aneurism.

M. **Robert** read a paper, entitled "Practical Observations on Varicose Aneurism of the Scalp;" the object of which was to bring under discussion the principal points in the clinical history of this affection.

The author observed that the hairy scalp is the most frequent seat of this lesion. M. Robert had endeavoured to discover, by the aid of the microscope, whether any peculiarity exists in the structure of its arteries sufficient to explain the fact, but had not found any histological difference between these and the vessels of other parts of the body. The occasional causes of these growths are blows and congenital sanguineous tumors. M. Robert referred to the solidity of the texture of the coats of the arteries of the scalp as one of the circumstances opposed to the cure of such cases.

M. Robert then described the course of these cases, remarked upon the rapidity of their development, and submitted the following conclusions:—

1. At the present day we possess no means for the radical cure of varicose aneurisms of the scalp.

2. Ligature of the carotid artery on the affected side is the only means of arresting its progress.

3. This operation arrests or renders less frequent the formidable hæmorrhage which often threatens life.

4. The anastomoses between the branches of the temporal and occipital arteries are the channels by which the circulation is restored.

5. If the restoration of the circulation be followed by a return of hæmorrhage, &c., both carotid arteries must be tied.

In the discussion which followed the reading of M. Robert's paper,

M. **Cloquet** mentioned a case in which the operation of ligature of the carotid had been proposed, but not assented to, and in which the tumor spontaneously disappeared soon afterwards. M. **Berard** pointed out the anatomical characters of the arteries of the scalp as being of a character in which the microscope was useless; and remarked also that ligature of the carotids is not unattended with danger. M. **Velpeau** referred to the occurrence of varicose aneurism in other parts of the body, as showing them not to be peculiar to the scalp.

SURGICAL SOCIETY, PARIS.

March 12, 1851.

Arterio-venous Aneurism.

M. **Marjolin** read a report on a case related by M. Monneret, of which the following is an abstract:—

J. F., aged 39 years, became attached to the Hospital, *Bon-Secours*, when sixteen years of age. When twenty years old he joined the first expedition to Africa, and was seriously wounded. A deep gunshot wound was inflicted on the upper and outer part of the leg, from which about twenty small shots were extracted. Swelling and inflammation of the leg followed. Movement of the limb was difficult for five months. Eventually he resumed military service. In 1883 he bruised his left knee by a fall. During the last six years numerous varices had appeared on the whole of the leg and lower third of the thigh. On the 6th January, 1850, he fell on the pavement, and fractured both bones of the left leg at their lower part. He had perfectly recovered from this injury, only a slight cicatrix having remained. On the 24th of August, in accidentally passing his hand over his left thigh, he for the first time felt a pulsation. This he then mentioned to M. Monneret, who had for two months observed the case, and found that it underwent no change. The limb preserved its natural size, form, and colour. After walking for several hours, the foot and ankle became swollen, and acquired a violet-hue; at the same time there was experienced a sensation of tightness and coldness. A cicatrix was observed in the popliteal space. Thirteen shot could be felt beneath the integument of the leg, but they did not cause inconvenience to the patient. One of the shot was distant from the others, and situated below and rather behind the patella. There did not exist any trace of a tumor. On following the course of the crural artery with the finger, it was found that the vessel on the left side was sensibly larger than that on the right. Its pulsations were also more energetic, in proportion as the hand approached the middle of the thigh and the passage of the artery through the ring in the adductor, a fremissement was felt synchronously with the arterial diastole, and which continued strong to the popliteal space, and extended with diminution upward towards the groin. It was transmitted to the adjoining muscles and bones. The arterial pulsations were visible only in the middle of the thigh. The fremissement could be made to cease by pressure on the artery at the crural arch. The vessels of the leg preserved their normal size. No undulation was noticed in the varicose veins. Auscultation furnished important signs. The ear detected an acute sibilant sound, or soufflet, isochronous with the fremissement. This was followed immediately by a second sound lower and graver than the former, and synchronous with the arterial systole. It was readily determined that the last sound was continuous, and obscured at intervals by the first mentioned, or sibilant, sound. These sounds ceased on pressing the artery at the crural arch. The sound was compared to that of a file or saw. The intermittent diastolic sound was loud near the crural arch, where the continuous bruit was feeble, and scarcely perceptible. Towards the middle of the thigh both sounds resumed their intensity. All other parts of the vascular system were carefully examined, and found to be free from disease.

M. **Monneret** had, upon this case, formed a new theory of the seat of the bruits and fremissements observed in communications between arteries and veins. If, says M. Monneret, there be a continuous sound proper to veins, it ought to be heard in the aneurismal varix, at least during the time that the arterial current is suspended. But, on the contrary, directly the artery is compressed both sounds cease entirely, whilst, if the arterial blood be permitted to circulate, all the phenomena are reproduced. The continuous sounds and tremor are produced, 1st,—by the crossing and intermingling of the currents, causing a more rapid circulation of the venous blood by the impulse communicated from the arterial current. 2dly,—by the enlargement and "*arterialisation*" of the parietes of the veins. The intermittent sound and vibration is produced by the passage of the blood during diastole across and through the morbid and contracted arterial orifice.

M. Marjolin commented upon these views, and regarded the passage of the blood through the orifice of communication as sufficient to cause the phenomena in question; he did not admit the twofold division of causes proposed by M. Monneret.

The report proposed the thanks of the Society to M. Monneret for his essay, and recommended the work for publication in the Society's Transactions. These recommendations were adopted.

A NEW EPIDEMIC IN FRANCE.

The French journals describe an epidemic which has appeared in the department of Dordogne. The disease lasts generally two days: it begins with most acute pain in the head, causing the utterance of loud cries, and is accompanied with severe colic. In the commune of Lonzact alone, out of a population of fifteen hundred souls, the mortality was seven per diem.

Medical Trials and Inquests.

MAIDSTONE ASSIZES.

March 20, 1851.

Before Mr. Baron Parke.

HOMICIDAL INSANITY DEPENDING ON DISORDERED MENSTRUATION.

Amelia G. Snoswell, 21, was indicted for wilful murder of a child named Alice Hooper, by cutting its throat.

Mr. Grady prosecuted; and the prisoner was defended by Mr. Bodkin.

The circumstances of this case were of a very distressing kind. It appeared that the child whose melancholy death was the subject of the inquiry was the daughter of a married sister of the prisoner, who at the time of the occurrence was living with her husband, at Milton, near Gravesend. The prisoner, who was described as a kind-hearted, affectionate young woman, was in the habit of constantly visiting her sister, and had always evinced the greatest affection for the child, calling her "her Alice," and appearing to be most affectionate. On the evening of the 13th of August, the mother had put the child in question, who was thirteen months old, and another somewhat older, to bed, and the prisoner was observed, shortly after she had done so, to go into the bedroom where the two children were. In a minute or two she came out with a large table knife in her hand, covered with blood, and exclaimed, "I have killed her—I have made her happy." The mother rushed into the room, where the dreadful spectacle awaited her of her youngest child lying upon the bed quite dead, with its throat cut, the act of violence being of such a desperate character that the whole of the arteries and nerves were cut through, and the head was only attached to the trunk by the muscles of the back. The prisoner testified no concern or emotion after the dreadful occurrence, but merely struggled with the persons about her to get to the child, saying at the same time, "Let me go to my child—let me go to my Alice." It appeared that the unhappy young woman had been suffering from a constitutional irregularity likely to affect the brain, and it was also proved that during the past year she had suffered a severe disappointment by a projected marriage between her and some young man being broken off, and this, according to the medical testimony, was calculated to aggravate her symptoms, and the medical gentleman stated a positive opinion that at the time she committed the dreadful deed she was not a responsible being; and in addition to these facts it was also proved that upon one occasion, shortly after the occurrence above alluded to, the prisoner attempted to poison herself by taking oxalic acid.

The jury stopped the case, and found the prisoner *Not Guilty* on the ground of insanity.

She was ordered to be detained during Her Majesty's pleasure,

Correspondence.

CERTIFICATES OF THE CAUSE OF DEATH BY MEDICAL PRACTITIONERS.

Sir,—There is, I believe, an error in the editorial comment on the letter of "A Country Surgeon," in your number of March 7, as will be apparent from the accompanying correspondence, which shews plainly that the law does *not require* the signing of the papers referred to, in the case of private patients. The correspondence took place in consequence of the difficulties made by the registrars of this and the adjoining districts. A professional friend and myself were the applicants to the Registrar-General for the information; and, on the strength of his replies, we have discontinued signing the forms supplied by the registrar. Some time ago, it was, I believe, stated that there were only about *fifty* medical practitioners who did not sign the printed forms: perhaps that number may be increased when those who do sign them find that they *give for nothing* (charity?) that information which the registrars *are paid* for obtaining, and part of which payment falls again on the medical man (little it may be, but something) in the Poor's Rate, to which the registrars' fees are charged.

No doubt the Act is compulsory in obliging parties to give information *when applied to by the registrars* after death; but by the replies of the Registrar-General to the questions put to him, there appears to be no law compelling documentary evidence.

I give you the name of my professional friend and my own, privately, for reasons connected solely with this locality.

Respectfully yours,
Another Country Surgeon.

March 11, 1851.

(*Copy.*)

General Register Office,
April 21, 1845.

Sir,—In reply to your letter of the 19th instant, I beg to acquaint you, by direction of the Registrar-General, that the provisions of the Registration Act are not considered applicable to *stillborn* children in any respect. Such children are not registered either as births or deaths; and therefore it is not necessary, under any circumstances, to give notice of their burial to the registrar.—I am, sir,

Your obedient servant,
THOS. MANN,
—— ——, *Esq. Surgeon.* *Chief Clerk.*

(*Copy.*)

—— Dec. 17, 1846.

Sir,—I shall feel much obliged if you will, at your convenience, be kind enough to answer me the following questions:—

1. Does the law authorise the registrar of the district to refuse a certificate of burial until the applicant produces a medical certificate of the cause of death?

2. If the registrar refuses a certificate, what course is the party to adopt for burial?

3. Is a certificate of burial from the registrar necessary for a stillborn infant? or is a certificate from the medical attendant of the fact sufficient authority for the sexton to inter?—I am, sir,

Yours respectfully,
Registrar-General of Births, &c. —— ——

(*Copy.*)

General Register Office,
Dec. 19, 1846.

Sir, — By direction of the Registrar-General I beg to acknowledge the receipt of your letter of 17th instant, and, in reply, to inform you, that if a registrar of births and deaths be duly required, by a qualified party, to register a death, he must do so, although no medical certificate of the cause of death be produced; the particulars must, in such a case, be entered as furnished by the informant.

If no certificate of death be produced at a funeral, the interment should nevertheless take place, and notice thereof be sent by the officiating minister to the registrar.

Stillborn children should not be registered at all, consequently neither of the certificates you mention need be given in those cases.—I am, sir,

Your obedient servant,
THOS. MANN,
—— ——, *Esq.* *Chief Clerk.*

(*Copy.*)

—— Dec. 28, 1846.

Sir,—I beg to thank you for your answers to my questions of the 17th instant. I shall feel obliged if you will inform me whether the officiating minister is required, in his notice to the registrar, to give any information of the body interred, beyond the circumstance of his having performed the burial service; and if so, of what nature and extent it should be? Also, whether it is necessary to give notice to the registrar of the burial of stillborn children by the sexton or other person who inters?

I am, sir,
Yours respectfully,
The Registrar-General of Births, &c. —— ——

(*Copy.*)

General Register Office,
Jan. 7, 1847.

Sir,—In reply to your letter of 28th December (received this day), I am directed by the Registrar-General to inform you, that the notice to be given, pursuant to the 27th section of the Registration Act, should contain such information as to the name, residence, and occupation of the deceased, as will enable the registrar without difficulty to go and register the death.

I am further directed to inform you, that stillborn children are not required to be registered as births or deaths.—I am, sir,

Your obedient servant,
THOS. MANN,
—— ——, *Esq.* *Chief Clerk.*

(*Copy.*)

—— Dec. 14, 1846.

To the Registrar-General, London.

Sir,—Would you have the goodness to inform me whether there is any time fixed by Act of Parliament, or otherwise, for the district registrars to be in attendance at their offices for the purpose of registering births and deaths; and if the hours of attendance are fixed, the knowledge of what they are would greatly oblige, sir,

Yours very respectfully,
—— ——

(*Copy.*)

General Register Office,
Dec. 15, 1846.

Sir,—In answer to the inquiry in your letter of the 14th instant, I am directed by the Registrar-General to inform you, that a registrar of births and deaths has no authority to fix certain hours for the performance of his registration duties. If applied to, he is bound to register birth or death at all reasonable times in the daytime.—I am, sir,

Your obedient servant,
G. SOUBAY,
First Clerk of Correspondence.
—— ——, *Esq.*

REGISTRATION OF DEATHS BY MEDICAL MEN.

SIR,—In the MEDICAL GAZETTE of the 7th inst., you have published a letter from a "Country Surgeon," inquiring whether in the cases he puts he is bound to give a certificate of the cause of death,—and the concluding sentence of the answer conveys to your readers the erroneous impression that in some cases it is required by the law.

Allow me to call the attention of your readers to the actual state of the law,—that a certificate is not required from a medical man *in any case*, for the purpose of burial, or even for obtaining registration of the death: for the registrar is bound under a heavy penalty to register the death upon the mere *verbal* information of *any casual party, whether present at the death or not:* —and I cannot understand why any medical men should be willing to take on themselves without remuneration, and without necessity, the responsibility of committing themselves and their reputation to a written statement of the cause of death of a patient, when the profession are in such numbers protesting against replying without fee to the inquiries of the Life Assurance Offices.

The Registration Act, with its complicated machinery, has thrown on the registrar the whole duty of ascertaining the cause of death, and *upon application from him* the medical attendant and friends of the deceased are bound to give verbal—but *not written*—information.—I am, sir,

Your Constant Reader,

D. R.

March 12, 1851.

CHLOROFORM, AND ITS USE BY THIEVES.

SIR,—I shall be obliged if you will allow me to say a few words respecting the administration of chloroform to the grizzly bears in the Zoological Gardens, a subject to which you have alluded in the MEDICAL GAZETTE of to-day.

Each bear was secured by a collar, and held by two or three men, whilst the chloroform was given to it. It was, in fact, as much under control before the vapour was exhibited, as any thief could wish a person to be whom he wanted to rob. The chloroform no doubt materially aided Mr. White Cooper in his delicate operation on the eye, but a felon does not require that entire freedom from motion or resistance which is necessary to enable the surgeon to drill the crystalline lens with safety.

My experience of the bears agrees entirely with what I have seen of the exhibition of chloroform to other animals, and to the human subject, in convincing me that this agent would lend no assistance to the criminal, whatever his projects might be.

I shall not proceed to defend the opinions I hold against some remarks in your leading article; for the rules of journalism require the editor to be a kind of autocrat, to whom other members of the so-called republic of letters must yield passive obedience.

I remain, &c. &c.,

JOHN SNOW, M.D.

Frith Street, Soho, March 21, 1851.

⁂ We do not wish to exercise any autocratic judgment in the matter. Our readers will judge, from the statements in the article alluded to, whether chloroform may not be used with criminal intention quite irrespective of *force*. A half-drunken or foolish person may be persuaded to take it, and thus become an easy victim to a cunning thief. Besides, Lord Campbell's Act very properly punishes the mere *attempt* to administer such a substance with unlawful intention, even although the offender may not succeed in rendering the person insensible. Criminal offences are not to be measured by the amount of success which attends them, either in the noxious agent selected or in the effects which may or may not be produced by it. The *ursine* case proves what force can accomplish; and we can imagine a case in which determined burglars might, by the aid of chloroform, easily dispose of a solitary housekeeper or servant, and prevent them from becoming witnesses of their proceedings.

ANTISEPTIC PROPERTIES OF CHLOROFORM.

THE foreign journals announce as a recent discovery that chloroform is possessed of antiseptic properties. Thus, meat was not found to putrefy in air impregnated with the vapour. It is said that, when the chloroform forms only 1-200th part of the air, it prevents putrefaction. It is advisable that some further experiments should be tried on this subject, as, if corroborated, the discovery may become of practical importance.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

THE anniversary dinner of this Society is appointed to take place on Saturday, April 26th, at the Thatched House, St. James's Street, Sir Charles Mansfield Clarke, Bart., the President, in the Chair.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 21st instant:—Messrs. J. S. Biggs—C. Nairne —M. Morgan—C. W. Goodall—G. W. Pettinger—C. Holman—W. H. Gatty—G. Earle—W. A. Rogers—T. Fuller—E. R. Bickersteth.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 20th March, 1851:—Samuel Garmble, Newmarket—Henry Wiglesworth, Newbury—Andrew Bolton, Durham.

OBITUARY.

At Lucea, Jamaica, on the 10th February, Edward Binns, Esq., M.D., Author of "The Anatomy of Sleep," &c.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Pharmacopœia Collegii Regalis Medicorum Londinensis. Londini, MDCCCLI.

Urinary Deposits: their Diagnosis and Pathology. By Golding Bird, A.M. M.D. Third Edition.

A Practical Treatise on Diseases of the Urinary and Generative Organs in both Sexes. By William Acton, late Surgeon to the Islington Dispensary. Second Edition.

Phthisis and the Stethoscope. By R. P. Cotton, M.D.

Popular Medical Errors. By Jas. Bower Harrison, M.R.C.S. &c.

A Non-Medical Essay on Spasmodic Cholera. By Philo-Medicus.

Elements of Electro-Metallurgy. By Alf. Smee, F.R.S. Third Edition.

An Essay explanatory of the Tempest Prognosticator in the Building of the Great Exhibition. By George Merryweather, M.D. the Designer and Inventor.

Monthly Journal of Homœopathy. March.

Comptes Rendus. Nos. 9 et 10; 3—10 Mars 1851.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 6, 7 und 8; 8—15 Februar 1851.

AMERICAN JOURNALS.

New York Medical Gazette. Feb. 15 and March 1, 1851.

The New York Register of Medicine and Pharmacy. Nos. 10 and 11; February and March, 1851.

The Philadelphia Medical Examiner. Feb. 1851.

The American Journal of Dental Science. January 1851.

British American Medical and Physical Journal. March 1851.

BIRTHS & DEATHS IN THE METROPOLI

During the Week ending Saturday, Mar. 2

BIRTHS.		DEATHS.	
Males....	824	Males....	669
Females..	756	Females..	743
	1580		1412

CAUSES OF DEATH.

ALL CAUSES	1412
SPECIFIED CAUSES	1410
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	321
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	47
2. Brain, Spinal Marrow, Nerves, and Senses	136
4. Heart and Bloodvessels..........	53
5. Lungs and organs of Respiration	350
6. Stomach, Liver, &c.	75
7. Diseases of the Kidneys, &c.	[illegible]
8. Childbirth, Diseases of Uterus, &c.	[illegible]
9. Rheumatism, Diseases of Bones, Joints, &c.	[illegible]
10. Skin........................	[illegible]
11. Premature Birth	[illegible]
12. Old Age........................	[illegible]
13. Sudden Deaths..................	[illegible]
14. Violence, Privation, Cold, &c....	[illegible]

The following is a selection of the numbers of Deaths from the most important special causes

Small-pox..........	16	Convulsions........	[illegible]
Measles............	33	Bronchitis	[illegible]
Scarlatina	15	Pneumonia........	[illegible]
Hooping-cough	81	Phthisis	[illegible]
Diarrhœa..........	18	Lungs	[illegible]
Cholera............	1	Teething	13
Typhus............	54	Stomach	4
Dropsy	25	Liver............	[illegible]
Hydrocephalus	39	Childbirth	[illegible]
Apoplexy	28	Uterus	[illegible]
Paralysis	24		

Remarks.—The total number of deaths was 416 *above* the average mortality of the 12th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... [illegible]
" " " Thermometer[a] ...... [illegible]
Self-registering do.[b] .... Max. 70° Min. [illegible]

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 1·13.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was nearly 1° *above* the mean of the month.

NOTICES TO CORRESPONDENTS

Dr. Radford's paper has been duly received, and we will make arrangements for its early insertion.

Communications have reached us from Dr. Thompson and Mr. Richardson. They will be published very shortly.

The papers of Mr. Bate and Mr. Keteves are unavoidably postponed until next week.

The Report of the Newcastle Pathological Society is also deferred.

Received.—Dr. Norman Chevers, Chittagong—Mr. Grantham—Dr. Ogston, Aberdeen—Dr. Nevins.

Lectures.

THE GULSTONIAN LECTURES
FOR 1851.

Delivered at the Royal College of Physicians.

By EDWARD LATHAM ORMEROD, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

LECTURE II.

III. MORBID ANATOMY OF VALVULAR DISEASE OF THE HEART.

Physicians and morbid anatomists not conversant with the same classes of cases. Morbid changes are of two forms: causes of each form: general characters how far distinctive of each: microscopic distinctions negative; pathological more important.

First form.—Effects of simple or rheumatic inflammation.—Are they really inflammatory?—Warty growths, their seat, early history, minute anatomy.—Ulterior changes, to reparation, to disorganisation.—Allied changes.—Primary and secondary effects on the valves compared.

Second form.—Specific inflammatory or other affections; typified in the filamentous and globular growths; early history.—Filaments; successive changes; minute anatomy; compared with growths of the first form; size; softening, earthy degeneration.—Globular vegetations; history; compared with the filaments.—Allied changes.—Seat of the changes in the two forms contrasted.

IN the preceding lecture we reviewed the chief causes of valvular disease, and the physical signs from which we conclude that those causes have taken effect. We turn next to the consideration of the nature of the lesions giving rise to those physical signs; that is to say, to the morbid anatomy of valvular disease.

It now becomes necessary to bear in mind that the classes of cases of valvular disease with which we have to deal as physicians and morbid anatomists respectively, are not the same. Even supposing the number of cases which we met with in these two separate capacities were the same, (making the proper allowances), still the two classes could in nowise be considered as identical.

As physicians, we have to do with cases of acute inflammation where the first foundation of those structural lesions is being laid; and with cases where structural lesions, arising from whatever cause, and dating from whatever period, are producing present disturbance of the circulation. We miss, as physicians, the end of those cases which get entirely well after acute inflammation, and the beginning of those cases where structural lesions have arisen from chronic insidious processes.

As morbid anatomists, of course, we meet with structural changes of all kinds and all degrees, and as such we meet with the beginnings of chronic processes, of which, as physicians, we only know the ends. But, as such, on the other hand, we see nothing, or rather know nothing when we do see them, of those cases where perfect reparation has taken place; cases of which we have seen the beginning as physicians, of which (may we say?) we have, as such, effected the cure.

It is needless, on the present occasion, to enumerate all the characters of a healthy valve. They must be often seen to be apprehended. The standard of health for each particular subject must be ascertained, as nearly as may be, by a comparison of the left valves with those on the right side, which so rarely suffer from the same kind of disease. It will be sufficient merely to indicate the points to be kept in view.

The opaque nodules so commonly found in the auriculo-ventricular, especially in the tricuspid valves, must be practically known to be distinguished from the morbid growths, which they in some sort resemble, found especially in the mitral valve. Speaking generally, the thinness, elasticity, and transparency, with the fan-like expansion of their chordæ tendineæ, just stopping short of their delicate edges, are the characters most important to notice in the auriculo-ventricular valves. In the sigmoid valves, the double crescentic line commencing from the corpus Arantii of each, and marking their edges of contact,—their thin free edges,—their exact symmetry, and the accuracy with which they can fall back against the sides of the artery during the onward passage of the blood, should be familiarly known. For it is in these particulars that disease is apt to induce the most important structural changes.

Abstractly speaking, the principal changes are not many. The valve may be simply thickened and more or less rigid, or its substance may be increased by external accretion, or removed by erosion. And with these changes of form and texture more or less important changes in composition may be allied.

A more particular survey of the various morbid changes, waiving the minor differences which the variety of situation and extent of these changes and their mutual connections give rise to, enables us to group them into two classes. There seem to be sufficient grounds for subdividing diseases of the valves of the heart into two distinct forms, each characterized by external differences of figure of the morbid products, each owning different causes, allied to different changes of other parts, and passing through different phases from their first beginning to the fatal termination[*].

The external figure of the accretions which characterise one of these forms is that of small warty granules studding the edges of contact of the valves. To the other belong those long leathery tails or filaments, and the round pedicled masses, known as Laennec's globular vegetations, which sometimes hang from the edges of the valves[†]. The one we recognise most commonly as the effect of acute rheumatism, judging from the circumstances under which it occurs; the other seems more closely connected with congenital malformation or predisposition, or with renal disease. We may group with the one the membranous flakes which sometimes overlie the interior of the left ventricle where it runs up into the aorta, and most of the changes of figure of the orifices of the heart or of the valves independent of present accretion or erosion. The other claims to itself those patches of papillary growths which sometimes stud the interior of the left auricle; and here nearly all the changes of form by ulceration[‡] or erosion belong. In one the cause acts but for a while, and the subsequent changes which the organic results of the temporary action of this cause undergo are due to contraction, or consolidation, or obsolescence of the morbid products. But, in the other, the cause which has induced the growths acts permanently, and the growth increases at one part while it decays at another; softening and earthy degeneration may be found at the root, or in the centre of the yet growing mass. Such, in general terms, are the distinctions which it is proposed to display more in detail in the following remarks[*].

We have already inquired into some of those conditions whose relation to disease of the valves of the heart, speaking generally, appeared to be that of cause to effect. It remains here briefly to show how far we may ascribe to any of these conditions a specific power of determining the existence of one or other of the two forms of valvular disease. Rheumatism, renal disease, and congenital malformation, seem more particularly to have such specific influence, and to require a separate consideration in this point of view.

1. *Rheumatism.*—Of the ordinary form of acute endocarditis, scarcely any other cause than articular rheumatism is familiarly known. Indeed, seeing with how slight an attack of articular rheumatism endocarditis may coexist, and how often the articular affection may be discovered by patient watching, in cases where we had believed it to be absent, one feels more inclined to doubt one's own accuracy than to record a case as an instance of non-rheumatic endocarditis. Though there is no question that such cases are occasionally observed, especially, (though I have no experience on this point) after the exanthemata, and of these after scarlatina. And what is true of the results of recent endocarditis applies more or less strictly to older morbid products, as they are more or less certainly referable to such a cause. Rheumatism would appear to be a most active cause of the first form of valvular disease.

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[*] Dr. Williams has classed valvular lesions under three general heads, referring them:—1, to the thickening with or without induration; 2, to thickening with softening and ulceration; 3, to atrophy. The valvular lesions which have come under my own notice have appeared more readily to fall into two classes. But in venturing to differ with Dr. Williams as to the claims of his third class to a distinct consideration, I must acknowledge the correctness with which he has, in so few words, delineated the chief characters of the form of disease which he has described there, as here, in the second class. (Path. and Diag. of Dis. of the Chest, 4th edit. p. 260.)

Dr. Kingston has considered atrophy of the valves at some length. (Med.-Chir. Trans. Vol. xx. p. 90.) The importance of the principle inculcated I would not question. But I have not yet met with a case where the consequences of simple atrophy have been a cause of valvular imperfection, the only cases falling strictly under that denomination having been to my experience sigmoid valves with reticular edgings (if, indeed, this be not congenital) the apertures being beyond the edges of contact, and therefore unimportant, and valves whose diminishing proportions have apparently kept pace with the general atrophy of the heart. Contraction of the chordæ tendineæ, or of the valves, or perforation with traces of some organic process, should rather be referred to such previous processes than to atrophy. And they have accordingly been distributed under these several heads in the ensuing pages.

[†] Their more common situation is at the tips of the auricles or ventricles, where only were they known to Laennec. (Aus. Méd. iii. p. 245.)

[‡] The ulcerous patches of which the upper surface of the mitral valve is the common seat, admit of no very certain explanation. Considering them as evidences of something which has been (for my experience of them extends no farther) and has ceased to exist, leaving only irregular serpiginous markings on the valves, the investigation of a small number of cases would scarcely justify any inferences as to their essential nature.

[*] With regard to specific, and particularly malignant diseases of the valves of the heart, more facts are requisite before any attempt can be usefully made to arrange what is already known on the subject. The subject of tubercle has already been noticed in its negative bearings. (Walshe on Cancer, ad locum Med.-Chir. Trans. vol. xxii. pp. 1 and 39.)

In the other form it holds a lower place. Out of seventeen extreme cases, selected as the most unequivocal examples of this form of lesion, rheumatism appears as a cause in no more than seven. And this is the more striking, when, taking the converse view of the remark just made, we recollect how easily any previous attack of pain may be interpreted as rheumatism.

2. Of *renal disease* there is little here to observe more than has already been said in the previous lecture. Only it may be added to those remarks, in their present application, that renal disease existed in ten of the seventeen cases selected as the most characteristic examples of the second form of valvular disease.

3. *Congenital malformation*, as displayed most unequivocally in the development of only two sigmoid[*] valves, aortic, or pulmonary, or both, as the case might be, has been observed in the dissection of twelve patients, affecting fourteen out of their twenty-four sets of sigmoid valves. Six of these patients and six sets of valves were affected with what has been above designated as the second form of valvular disease, in an extreme degree, presenting long leathery growths hanging down into the vessels from the edges of the valves. Five other of these patients had valvular disease, not indeed of a nature so decided, or in so marked a degree as the six just quoted, or as to be considered with them as types of the affection, yet quite of a different nature to the results of ordinary rheumatic endocarditis[†]. Only one patient out of twelve, and three sets of valves out of fourteen, thus ill-developed, namely, one aortic and two pulmonary (this in the two double cases) had escaped disease.[‡] We may contrast with this the curious fact that sets of four sigmoid valves, where there is no imperfect but rather redundant development, are generally found healthy. In my small experience (for this is a much less common appearance) they have been invariably so[*].

Within certain limits, the distinctions between the effects of these several causes may be clearly traced. But these limits are not very wide. Disease of the valves of the heart, indeed, would be very unlike disease of any other part, if the different forms did not insensibly shade into each other; if simple inflammation, for instance, did not sometimes arise from the irritation of specific disease, or if this last did not sometimes extend itself in consequence of, and mingle with the products of, simple inflammation. So that the line cannot always be drawn where we may say this results from the one, and here end the products of the other form of disease. And there are two cases in particular where the products of the two forms are inextricably involved.

1. Extreme cases of simple rheumatic endocarditis may, there is no reason to doubt, shade into the second form. The warty granules may, when of rapid growth, acquire the form and properties of the long leathery accretions.[†]

2. Simple induration and thickening of contiguous parts may ensue upon the existence of either form; and the results of chronic inflammation and of the original disease, of whatever kind, may be so intermingled as to exceed all the powers of discrimination of the anatomist to disentangle them. It could not well be otherwise.

So far, however, as the delineation of the characters of the two forms is concerned, this need cause no difficulty. The deficiencies and indefinite results of one observation may be readily made good from others; and the succession of the several lesions, as traced in a large number of dissections, is complete and continuous. So that there is no reason to doubt that the two forms of disease which are denoted respectively by simple thickening of the edges of contact of the valves, and by minute filaments growing from their surface, are as distinct in these their lesser manifestations as in their more highly characteristic development, namely, in the warty granules and the long leathery growths which they each display at another period of their existence. But this by the way, only observing, as will appear further on, that the morbid appearances here placed in contrast do not indicate exactly the same period in the existence of each of the two forms respectively.

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[*] Dr. R. Quain (Edin. Monthly Journ. Dec. 1846) has published some cases where the sigmoid valves had been apparently reduced to the number of two by the rupture of one of their attachments. I do not think, however, that this explanation applies to any of the cases referred to above.

[†] Since writing the above another case has come under my notice, at too late a period, however, to allow me to add it to the tabular analysis. The three aortic valves were affected with recent endocarditis, the two pulmonary with old thickening and earthy degeneration. The man had renal disease. The muscles of his neck were infested with *trichina spiralis*.

[‡] I owe my first knowledge of this fact (the liability of valves thus constituted to disease) as of many others, to Mr. Paget, who has remarked upon it in the Med.-Chir. Trans. vol. xxvii. p. 187. Dr. Barclay says, "I am not aware that, during the two years from which the cases are selected, any instances of this abnormal conformation (the existence of only two aortic valves) occurred unconnected with endocardial disease." (Med.-Chir. Trans. vol. xxxi. p. 200.)

[*] Dr. T. Thompson mentions the occurrence of four healthy pulmonary valves in a case of congenital malformation of the heart. He refers to other cases where the valves were found to differ in size, but are not said to have been diseased. (Med.-Chir. Trans. vol. xxv. pp. 249—251.)

[†] See Rokitansky, Path. Anat., Bd. ii. S. 478.

The general tendency of microscopic observations of the intimate structure of the growths by which the different forms of valvular disease are characterized, is rather to reduce them all to one type than to establish any essential differences. For many of the anatomical distinctions which appear so plain to the naked eye fade away under the more rigid, yet more partial scrutiny of the microscope.

Microscopic examinationhas notappeared to me to justify any exact essential distinction of the two forms, even in their most extreme and most characteristic development. The differences it indicates are but differences in degree. The structure of the morbid products in both forms alike is that of an imperfectly fibrous, more or less distinctly laminated mass. Through this mass are scattered numerous small granular bodies and granules, with a variable quantity of oil globules; the whole being cleared, but not entirely removed from sight, by acetic acid. I do not think that anything could be predicated more particularly of the intimate nature of the growths characterizing either of these forms; and I believe that this description is equally applicable to them both.

At first sight it might appear that this negative evidence of the microscope on so important a point is sufficient to set aside all other distinctions. Not so. For the microscope also tells us generally that the fibrinous traces of old inflammation, after a certain period, cease to present any characters distinctive of the known circumstances under which the inflammation took place. We have no particular reason, therefore, to expect to find any such distinctive characters in the particular case under consideration. The distinction, however, between the two forms rests on a safer foundation, in their observed pathological tendencies, than in these ambiguous differences of their microscopic structure.

Pathologically these two forms of valvular disease are distinguished, as already noticed, by the characters which the principle predominating in their development has impressed upon them. In the one form there is an original tendency to grow rapidly,* and still, while growing, to degenerate and decay. In the other there is a definite period of growth, on the determination of which the morbid products contract a consolidate themselves. In the one t morbid product inclines to be (for it only a question of degree) soft, brittle, a granular; in the other it is rather fir elastic, and of a fibrous structure. Su is the most general expression of the resu of ordinary observation in this matter.

In speaking of an original dispositio and ascribing to morbid products liv powers in so large a measure independe of the surrounding parts, I am presumin your acceptance of the doctrines which the terms involve. I need scarcely occupy you time with any detailed expositions of thes doctrines. They have been made familia to you by Mr. Paget.* And in their application to the matter under consideratio I gladly acknowledge the extent of our obligations to Dr. C. J. B. Williams† for hi labours in this department of general, a before in that of cardiac pathology. Wi these in your hands details from me woul be superfluous.‡

It is necessary here only briefly to recapitulate, before applying them, the two general principles relating to the presen subject, on which our attention must be fixed. These are:—First, that there are from the first essential differences in the products of the same disease according to the constitution of the patient. And, secondly, that such constitutional peculiarities imprint on the morbid products certain tendencies, which take effect after the morbid products have entered upon a condition of comparatively independent existence.

Valvular Lesions resulting from Simple o Rheumatic Inflammation.

The process which gives rise to the ordinary form of valvular disease has received the name of endocarditis. It is known better in connection with acute rheumatism, than as of apparently spontaneous origin. Yet, as the identity of the diseas under both circumstances has been established, in the following remarks, as alread by anticipation, the valvular lesions wi which we are familiar as the effects o acute rheumatism will be considered a resulting from simple or rheumatic inflammation indifferently.

It has been urged that the changes which acute rheumatism induces in the valves are not due to inflammation at all, but merely

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[*] See on this point "Dalrymple on the Rapid Organization of Lymph in Cachexia," Med.-Chir. Trans., vol. xxiii. p. 205. Dr. Bennett, "On Cancerous and Cancroid Growths," p. 164, says "[fibrin] is more connected with the decaying than with the formative stage of life."

[*] Lectures, Med. Gaz., 1847-49-50. Also "Simon's Lectures on General Pathology," Lect. VI., Lancet; and Dr. A. Clarke, Med. Gaz., xlii., p. 416.

[†] "Principles of Medicine," 2d edit. chaps. 3 and 4.

[‡] See also a very practical exposition of the surgical application of these principles, "Humphry's Lectures," Prov. Med. and Surg. Journ. Lecture V.

to deposition of fibrin from the blood. Now, this is not a matter to be definitely settled in the present state of our knowledge; for there is no certain anatomical character by which we may distinguish the effects of inflammation from those of deposition in these morbid products. Neither do I think that on this point the results of different modes of treatment can be trusted as diagnostic of the elementary constitution of the organic mass. Each one must form his own conclusion from the different weight he attaches to certain general principles, from which alone have we any means of judging of the question at issue.

It may safely be admitted that, after a certain period, namely, when the morbid product has acquired a certain size, deposition does take place, and that the total results are most probably, in any case, of mixed origin. For experiments shew the tendency of any substance projecting into the arterial current to become the nucleus of fibrinous accretion.

But, obviously, such contingent deposition has nothing to do with the first beginning of the valvular lesion. With regard to this, the real question at issue, we must not overlook the pathological condition of other parts with which this change of the valves often coincides, namely, inflammation in its most aggravated form in the pleuræ, lungs, or pericardium. And the fact, to which we shall return hereafter, that the subsequent valvular changes are essentially not superficial, nor limited to the point of the original lesion, makes very much against any theory which would explain these changes as the result of simple deposition in the first instance.

The absence of *vasa vasorum* from the lining membrane of an artery is the strongest reason that has been urged why these growths cannot possibly result from inflammation in the ordinary sense of the term. But this objection is more specious than real. For inflammation may be carried on by the same organic means as nutrition. And if, in any part, nutrition by unusual means effect an ordinary end, surely inflammation in the same part may do so likewise.

This is a point on which the most trustworthy information might be expected from accurate observations of the other changes of the valves which coincide with or precede the earliest appearance of these equivocal growths. But from the fact that all the attempts to settle this much disputed question habitually refer rather to abstract principles and general inferences than to direct observation, we may conclude that opportunities of noticing the very earliest changes resulting from so called endocarditis are exceedingly rare in this country. For my own part I have almost entirely to rely on the observation of others* for the accuracy of the statement that redness, with subsequent swelling, and apparently softening and loosening of the tissues of the valves, precede the appearance of the warty excrescences at their edges; for the disease had advanced to this last stage in all the unequivocal cases which have been the subjects of my own observation.

Staining and softening must be received in any case with great caution as evidences of the presence of inflammation of the lining of the heart and its valves. But, while on our guard lest we should misinterpret the results of decomposition in particular cases, we must not allow excess of caution to carry us into an opposite error. We must not at once dismiss these appearances as useless, though we cease to regard them as infallible guides. We must allow appearances which elsewhere would be considered as characteristic of inflammation,† to bear that signification here also,—at least in the absence of facts justifying any other interpretation; or there would be an end to the question, which, though myself inclined to believe that the growths, under these circumstances, are the effects of inflammation, I hold to need further examination.

The first of the changes more familiarly known as the result of endocarditis is recognised as the accretion of little warty granules running like a row of beads along the edges of contact of the valves, most commonly the mitral and aortic. Their appearance is very striking, for the edges (which it is important to distinguish from the edges which come in contact, on closure, with the other flaps of the valves) retain, at this early period, their normal configuration, and the disease is limited to this little bank, which seems piled up, as it were, on a healthy valve. The beading is often uniform and continuous, running, at the distance of about a line from the edge of the valve, round a considerable part of the orifice affected; or, if the beading be not continuous and uniform, generally all the angular projections are tipped, or the re-entering angles filled with a little wart of this nature.

Why the edges of contact rather than the free edges,‡ and why especially the angular projections should be thus affected, is readily explained by the greater degree of attrition, tension, and pressure, to which these parts are exposed during the action of the valves. For whatever be the cause of the formation of these granules, whether they arise by deposition from the blood or exudation from the inflamed valves, it is easy to see how such a process might be determined at this particular part by any cause calculated, like the above, to lacerate, or roughen, or even press the endocardium there.

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* Rokitansky, Path Anat. Bd. ii. S. 428. Dr. Kirkes has recently supplied me with the notes of a case where in connection with rheumatism the valves were distinctly swollen and vascular. In this case there were no fibrinous growths.

† See Gendrin. Hist. des Infl. § 981, and § 1467.

‡ Watson's Lectures, Vol. ii. p. 67, 1st edit.

These double crescentic lines on the sigmoid valves, and the irregular beading with its angular projections along the auriculo-ventricular edges of contact, furnish commonly the earliest and certainly the most unequivocal evidence of the presence of what is generally known and is considered in the following remarks as endocarditis.

There is nothing else with which they can be confused. At the same time, however, their size must not be taken as an exact measure of the intensity of the local inflammatory action; for deposition from the blood is a process which may and very often does take place; and as any roughness on the surface of a valve would be likely to attract fibrin from the passing blood, even in a healthy individual, such an event might yet more readily ensue in a case where the blood has already a strong tendency to deposit fibrin. Such is the case in acute rheumatism, as appears not only from the analysis of the blood, but from the large inflammatory exudation into the pericardium or pleura which occurs coincidently in some such cases. Here, as in so many other cases, where two causes act conjointly, the energy of the one may in greater or less part supersede the operation of the other in the production of their joint effects. The exact amount of the results of each process we have no means of estimating.

However produced, there can be no doubt that these granules are, from the first, a serious lesion. The singular tendency which they display to grow most freely on all the angles of the valves, explains how, from their earliest formation, they obstruct the onward flow of blood through the aortic aperture, and allow of regurgitation through the mitral valve, which they wedge open. The amount of blood hindered, and the amount regurgitated at each beat of the heart, may not, it is true, be much, but a very small fractional part, when multiplied by more than seconds, and minutes, and hours, amounts to a good deal in a few years: and when, after the vicissitudes of a laborious life, the patients who have left the hospital after an attack of acute rheumatism, with an endocardial murmur, apparently depending on the existence of granules of this nature, come again under observation, the serious importance of the lesion, which was then only indicated by a faint abnormal sound, is now too obvious in the state of the heart and the symptoms generally. All thought of effecting a cure is now at an end; the utmost that we can hope to effect by treatment is to ward off present death or palliate suffering by dividing the burden among the different organs. Many of these patients sink at once, others after two or three more of such melancholy visits; and it is with no little interest that we look to dissection to show what has been going on intermediately.

The first fact which presents itself is a negative one: the warty growths which characterise endocarditis are, after an uncertain period, no longer to be seen.* What the exact term of their *existence* may be it would be hard to say, and, indeed, dissection favours the belief that they last very different periods in different subjects; but the fact is certain, that, with few exceptions, this peculiar morbid appearance is not met with in patients dying years, or even months, after the particular attack of acute rheumatism to which the cardiac symptoms appear referable. A fresh attack of rheumatism may have induced the growth of a fresh crop of these granules: but this only proves the rule; for this second crop is found planted on the solid basis which the changes in the first crop have prepared for its reception.

The comparatively rare and exceptional cases, where the granules remain as such, need not detain us long. Under these circumstances the granules shrink up and become hard, obtaining, like all other masses of indurated contracted fibrin, the name, however incorrectly applied, of cartilaginous.†

More commonly, as already stated, this granular appearance is superseded by other changes. Of these, the first *seem to have* no regard to the ultimate end of the process: that is to say, whether the whole process shall end in perfect functional and organic reparation of the valvular lesion, or whether it have the contrary tendency, the first stage in either case is alike,—the granules are effaced. In the place where there is reason to suppose that the beaded line ran along the edges of contact of the valves, we now find a round bank of fibrin. This little bank assimilates itself to the disposition of the original beading by its greater distinctness at all the angular projections of the valves.

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* See Rokitansky, Path. Anat., Bd. ii. S. [illegible]; and Watson's Lectures, ii. p. [illegible].

† Bouilland, Rhumatisme Articulaire, p. 151, mentions one such case. I have seen also very rarely these granules having undergone earthy degeneration without quite losing their original form.

This morbid appearance may be taken as displaying the completion of the second series of changes in this form of valvular disease, as the formation of the granules constituted the first. We are not led to speculate abstractly on the connection of these two stages, for dissection supplies numerous cases to illustrate the gradual transition from the detached warty granules to the smooth continuous wall of fibrin. The original fringe of little beads, closely set, touching each other at the sides, gradually assumes the form of a continuous wall or crest, the serratures in which correspond to the divisions of the original granules; and this as gradually takes the form of the round bank above described, the serratures becoming obliterated, and the surface polished, though still remaining uneven.

The recent soft growths may easily be stripped off from the heart, leaving the part of the endocardium on which they have rested perfectly sound. And in the same way these granules may be easily separated from their connections with the subjacent tissues, in cases where they have been implanted on the edges of valves thickened by old disease. Zehetmayer, who has paid some attention to this matter, says that the epithelium is not continued beneath even the recent granules*. I have not been able to satisfy myself of the fact.

But when the granules have existed for a longer time, they become agglutinated more firmly to the valve, as well as to each other. In one case, as the laminated structure of the fibrinous crest might have led one to anticipate, a layer could be torn off, consisting of the crest and the endocardium together, leaving the valve, where the experiment had best succeeded, to all appearance perfect, only wanting the endocardium; but the growths were not separable from the valve without at least this amount of injury to its structure. In another case, speaking rather of single, the most satisfactory experiments, than generally by way of deduction from them all, the growths and endocardium and all the tissues of the valves were firmly matted together. The endocardium, when raised in strips from the neighbouring healthy surface, tore away with it a little of the covering of the thickened edge or crest; and, in the same way, on raising a strip from the superficial part of the crest, the tear ran into the endocardium of the neighbouring surface. But the separation could not be carried far; the result of any attempt to separate the whole mass was the destruction of the edge of the valve. The diseased mass, here, as in the former case, was of a fibrous texture.

In one case, the left ventricle, where it leads up into the aorta, was overlaid with a fibrinous patch slightly corrugated in parts. This was composed of long parallel wavy fibres wanting the distinct outline of the fibres of the endocardium, looking indeed quite woolly, apart from all other differences, as compared with these. On raising this, the endocardium was found beneath it smooth and polished, only a little thickened. The separation of this flake from the endocardium was made with increasing difficulty on approaching the sigmoid valves, and from the surface of these, which it overlaid, it was found quite inseparable, the substance of the valve tearing down, and the subjacent layers coming away with the firmly adherent adventitious membrane.

The results of these and other examinations of the minute anatomy of these growths in their several stages, greatly favour the opinion that they have their origin in inflammatory exudation. It is easy to see how, under any circumstances, whether deposited or exuded, the new product might become firmly agglutinated to the endocardium. But without some antecedent process affecting the deeper seated tissues of the valve, such as inflammation, it is not so easy to see why the whole substance of the valve should be implicated, and valve and growth be matted together into one mass; as is commonly found to be the case, when the external form has undergone those changes which mark the completion of the second period.

Thus far the processes have appeared to be identical, whatever the end in view might be, whether perfect repair of the lesion or disorganization of the heart. It will be most convenient to take this stage, characterised by the coalition of the granules, as the point of divergence from which repair or disorganization ensues. Perhaps a more natural distinction might be drawn from an earlier period, according as absorption or other processes predominate in the secondary changes. But, at least, this arbitrary period seems to be that when one or other of these processes begins legibly to stamp its own characters on the valvular lesion*.

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* Herz-krankheiten, S. 327.

* It is not intended to assert that from a certain period the changes in any one case are all for repair, or altogether tend to disorganization. Obviously, if analogy has any weight, the disorganizing changes might ensue at any period short of repair in any one case, and reparation might commence in the eleventh hour in any other. It may seem almost superfluous to advert to this, or to take any precaution against such an inference being deduced from the statements in the text.

I. Tracing, first, the process of repair:—The form of the fibrinous ridge changes; on section it appears square and angular rather than round. Next, all traces of the original mode of formation are lost; the fibrinous ridge has become smooth like the rest of the endocardium, with which it is inseparably united. It is now, to all appearance, an integral part of the valve, and, in its altered form, possibly itself the seat of new granulations arising from a recurrence of the disease in which itself originated.

The period occupied by these changes is apparently of different duration in different cases. Such a near approach to complete reparation was found in the mitral valve of a woman dying of syncope three months after the beginning of an attack of acute rheumatism, with endo- and pericarditis which had never been completely subdued. In her, as in another dying of syncope in a third attack, twenty and thirty years respectively after the two former attacks of rheumatism, the polished ridge had become the seat of new granulations. Another patient dying of bronchitis seven and ten years after two attacks of rheumatism presented the same ridges without any recent deposit. But reparation was quite as far advanced in a case dying ten months after the attack of rheumatism, as in those where life had been protracted to a longer period. Perhaps the original lesion had not been equally severe in all these cases.

I feel too sincere a desire to reach the truth in this matter to attempt to strengthen the above by extracting from an analytical table of valvular lesions, cases which might possibly conceal an error, and would only remark further, that this square edging in all its gradations is a very common appearance. And though, by the nature of the case, it is only discovered at a time when many of the opportunities for inquiring into its history are lost, the facts of such cases, as they stand, in no degree contravene, to rate their evidence at the lowest, the inferences which seem fairly to arise from the few cases where the particulars could be accurately ascertained.

There is no reason to suppose that organic reparation, having gone thus far, does not advance beyond this point. But I have not a case at command, to prove that reparation can be complete. All that I have attained to stops here. Indeed, it is hard to see what positive proof could be given of the occurrence of complete organic reparation in any one case: for with the removal of the disease the proof of its previous existence for all purposes of argument is gone.

In some such cases I have assured myself that the functional reparation was complete, though the organic disease had not been entirely removed. But here, too, a link is wanting in the chain of evidence; for I have not yet met with such a case where I have had satisfactory proof that there ever had been functional imperfection. However, this is not an abstract difficulty, as in the case last supposed, viz. the determination of the pre-existence of organic disease, but one which only requires more extended observation for its removal.

Summarily, and subject to all the fallacies already enumerated, the first organic results of acute endocarditis are not permanent, but are replaced after an uncertain period by other morbid appearances denoting the progress of more serious lesions, or of reparation, as the case may be. Perfect functional integrity (presumably functional reparation) is compatible with that degree of organic reparation of whose existence we have good evidence. And the occurrence of perfect organic reparation also is most highly probable. This, however, is a point not to be settled directly by single observation, but by way of inference from accumulated facts, where, therefore, the basis of observation should at least exceed the limits of error, which at present it does not.

II. In tracing the further changes in the process of disorganisation of the valves, we are continually reminded of the remark already made that the distinction between simply inflammatory and other changes of the valves cannot always be accurately observed. The distinction is often quite lost in these extreme results of disease. Absorption has apparently the chief share in bringing about reparation of the valves, but henceforth, in tracing the progress of advancing disease, we have to deal with other processes. It is from thickening, contraction, and adhesion, separately or combined, that the most serious valvular lesions in this form arise. And this either directly, or more remotely, in consequence of earthy degeneration or softening; or more remotely still in consequence of changes basing on these last, such as laceration of the valves, or further obstruction by means of adventitious growths.

Thickening, in its most harmless form, occurs in the substance of the valves, far away from their edges, and, but that experience shows that the most delicate valves are strong enough for all the purposes of life, might be considered here as a salutary process. But when accompanied by rigidity, and affecting the edge of the valve, it is, on more than one account, a serious lesion, for it hinders the valves from closing: and judging from the rough edges which such thickened valves commonly present, it would seem that their surface is liable to be injured by the irregular pressure and tension which their office subjects them to, but which their unyielding nature resents. And as if a certain local irritation was thus constantly kept up, it rarely happens that thickening goes on to any great degree without inducing general contraction.

The effect of simple *contraction** is best seen in the shortening of the chordæ tendineæ of the mitral valve. The mere fact of these cords being shortened might easily escape notice, but for the thickening which would seem to precede, and determine the occurrence of, this action. But none can doubt its importance, as measured, not by lines after death, but by the stethoscope and the observation of the general symptoms during life. In its extreme and most obvious degree, however, and as affecting the valves, this process cannot well be considered apart from *adhesion*, which completes the annihilation of the functions of the valves.

With the conviction that nothing has been made in vain, it is impossible sufficiently to admire the beautiful mechanism of the heart, faintly as we can appreciate its perfection. Each of the interlacing bundles of fibres has a definite duty, oftener than each moment, to perform, and each valve is suited to its purpose in a way that no human art has yet imitated: for the regular action of the best valves in our mechanical contrivances compared with these is so imperfect, that such a state in the heart constitutes disease. Sufficient when called into action, when they are not wanted the valves of the heart fall back so as to take up the least possible room, and to leave the passage free. Small in substance, differing little in specific gravity from the medium in which they play, great in strength, and accurate in their adaptation in health, how are they changed in disease! Thick, brittle, rigid, bony, and uneven, projecting into, and obstructing the blood as it goes on, and gaping when they should prevent its reflux,—such might be thought to be the extreme degree of organic change consistent with life. But no; these shrunk and puckered valves can do some duty still, and can still become more diseased. Creeping round the edges of the valves from their re-entering angles, another process now begins, which finally annihilates all their functions. If life is not previously interrupted by some contingent affection, the fissures between the flaps which compose the valves become gradually obliterated by adhesion,* and a little split in a thick, white, rigid membrane, or less commonly, an irregular hole in a kind of diaphragm, is all that remains of the mitral or sigmoid valves.

It will be of interest here briefly to notice two other conditions belonging to this form of valvular disease, affecting chiefly the aortic valves; for they are of a nature not to be comprehended in any merely general description of the successive effects of simple endocarditis, to which, however, the history of the cases renders it probable that they are to be referred.

The first, as consisting simply of the rolling back of the free edges of these valves, analogous in some respects to the rolling up of the great omentum in chronic peritonitis, may fall well under the head of adhesion and contraction, just considered. It is a change that has often been described, and could not well escape observation, the less as the pulmonary valves are so generally healthy as to afford a good standard of comparison for all deviations from the normal configuration of the aortic sigmoid valves.

The other form is, if I may judge by my own experience, very liable to escape observation, unless the attention is particularly turned to it, consisting as it does simply of a lengthening of one or more of the attachments of these valves. In such a case, the finger, when slid down the aorta, does not hitch in the pouch of the affected valve, as it does in the others, but slips on into the ventricle, from the doubling over of the edge of the valve, which is no longer retained by its proper attachment. And that the same yielding occurred during life, when the column of blood pressed against the valve, is shown by the loud diastolic murmur audible in such cases over the situation of the aortic valves. Of the actual cause of this lengthening it would be difficult to speak with certainty. The nature of the changes, however, with which it ordinarily co-exists, and the history of the cases, point to endocarditis.

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* Dr. Corrigan has made a paper on cirrhosis of the Lungs the means for communicating some very good remarks on the effect of contraction on the mitral and aortic sigmoid orifices respectively (Dublin Journ. Vol. xiii. p. 280).

* Dr. Elliotson (Lumleian Lectures), and after him Bouillaud (Des Maladies du Cœur, Tom. 2, pp. 96, et seq.), mention adhesion of the flaps of the auriculo-ventricular valves to the walls of the ventricle as a result of inflammation of the endocardium. I have never met with such a form of adhesion, though the sudden supervention of a loud aortic diastolic murmur at an early period of acute rheumatism in one case made me suspect its occurrence in the sigmoid valves. It is not, however, uncommon to find in cases of advanced disease of the heart that the auriculo-ventricular valves in the neighbourhood of their attached edges are drawn down as it were close to the walls of the ventricle. It seems as if the edge of attachment had extended itself; in other words, that adhesion had taken place. But, from careful examination of such cases, I am more inclined to refer this appearance to the results of contraction of the valve itself and of its chordæ tendineæ.

Doubtless, reviewing this subject, we are right in attaching the value that we do to the little warty granules which furnish the earliest unequivocal evidences of endocarditis. In themselves they are a serious lesion: but their natural tendency is to disappear, to become obsolete, as we say; and their pathological value, as far as they themselves are concerned, declines from the moment that they cease to grow. Though it be the rule that they interfere with the functions of the valves, they do so only contingently. They add temporarily to the mass of the valves, and so far temporarily may interfere with its action. But the injury caused by the slight material addition is trifling compared to the injury done in other ways by the cause of whose action these are the earliest and most obvious results, and which action their existence may possibly tend to renew.

Look, for instance, at an old thickened valve along whose edges a new crop of warty granules has grown up in consequence of recent endocarditis. Will the amount of valvular imperfection which they occasion bear a moment's comparison with that which the immobility of the whole valve, or the contraction of its orifice, gives rise to? Look at the most extreme effects of recent endocarditis on a previously healthy valve; the amount of organic disease there displayed is incomparably smaller than what almost any old thickened valve exhibits, taking into account the extent over which the lesion is spread in each case respectively. There can be no question that the subsequent or consequent changes are of much greater pathological importance than the results of the first outbreak of endocarditis.

It seems that the material importance of these warty growths—that, in other words, which they derive simply from their size—has a tendency to continually diminish. For two or three successive crops of them may leave no more serious organic result than a smooth laminated ridge to denote their previous existence. But regarded in a more comprehensive point of view, pathologically, they are of much greater importance: the inflammatory changes with which they are allied extending back into the substance of the valves, induce graver and more permanent results than the growths themselves. There is, indeed, no sufficient reason to deny that these secondary changes can ever be repaired. On the contrary, the examination of the results of previous inflammation of other fibrous tissues quite justifies the abstract conclusion that they are capable of repair. But the same examination practically forbids us to hope for much in parts circumstanced as the valves of the heart are,—never at rest—quite out of the reach of all mechanical remedies; two conditions these which in affections of fibrous structures are all-important.

The serious nature of any process which induces rigidity and contraction of the valves, diminishing the extent of their efficient surface and impeding their action, is obvious. But we may find other equally serious, though less obvious effects, ensuing upon inflammation of the valves, even in cases where the primary result of inflammation might seem at first sight to have been unimportant, perhaps even salutary.

Of this kind is the lengthening of the attachments of the aortic valves. Looking at the ordinary effect of inflammation in inducing contraction and rigidity, we are not at once reconciled to the idea of fibrous parts being relaxed and lengthened from such a cause. But structures which, in consequence of disease, have, in howsoever small a degree, exchanged their vital powers of adaptation to circumstances for a fixed addition to their mere mechanical powers of resistance, are rarely stronger for the purposes of life. The power of resisting a greater strain by increased mechanical strength is a very poor exchange for the power of repairing the injury which that strain may have occasioned in a weaker part. When this is lost, it fares with the heart as with the hardest substances in nature which have no power of repairing their injuries. It is not a strain now and then, but the constant wear and tear which does the mischief:—"Gutta cavat lapidem non vi sed sæpe cadendo." And the attachments of the aortic valves which have been the seat of inflammation yield to the continued pressure of the blood in the large vessels. If they ever had any increased mechanical strength, they lose it: they lengthen, and allow the edges of the valves to fall over, and the blood to regurgitate into the ventricle.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 27th March, 1851:—Henry Duncalfe, Walsall; Robert Vaile Skinner, Headcorn, Kent; William Pilkington, Leyland, Lancashire; John Ewens, Arminster, Devon; Henry Benjamin Wood, New Romney, Kent; George Dawson Armstrong, Cumberland.

Original Communications.

REMARKS ON THE CÆSAREAN SECTION, CRANIOTOMY, AND ON THE INDUCTION OF PREMATURE LABOUR.

By Thomas Radford, M.D., F.R.C.P.Ed., &c. &c. &c.
Consulting Physician to the Manchester and Salford Lying-in Hospital.

Most of our ablest obstetric writers recognize the Cæsarean section: Smellie, Leake, Aitken, Foster, Denman, Sims, Alex. Hamilton, Clark, Burns, Hull, Gooch, James Hamilton, Blundell, Barlow, Hopkins, Montgomery, Churchill, Shackleton, Conquest, &c., &c., have treated upon it in their writings, and justly consider it the appropriate operation to meet and overcome the difficulties of those cases of protracted labour, for the management of which no other plan is available, or has yet been discovered. It ought not to be considered by the profession as a resource solely to save the infant, as some of the observations of its recent advocates imply; but it ought most assuredly to be also valued as, and undertaken for the purpose of, likewise saving the life of the mother. This is a noble object to aim to attain, and if it is duly estimated and tried for, it will most assuredly be accomplished.

Its numerous advocates have the highest obstetric reputations; and their opinions will be received when the dogmas of its adversaries are buried in oblivion. There is, then, sufficient reason for the existing members of the profession to coolly and deliberately "weigh it in the balance," and if found (not by prejudice) wanting, then, to expunge it from the obstetric code. To listen to, and be guided by, dogmatic assertions, is not the legitimate and scientific method to settle questions of life and death. It is a controversial subject, and will remain so until the evidence, pro and contra, is fairly examined. Most unwarrantable epithets have been used as characteristic of its termination.

Dr. Osborn admonishes us as to "the propriety of never exposing the valuable life of a mother to absolute destruction by the Cæsarean operation." The erroneous doctrines inculcated by this writer have been ably and satisfactorily controverted by Dr. Alex. Hamilton (Letters, &c.), and Dr. Hull.

Mr. Simmons justifies the term "inevitable destruction," used previously by Osborn, and further brands the operation as *murder*. The fallacy of his malignant remarks is ably proved by Dr. Hull. The memorable case of Elizabeth Thompson, upon whom my valued relative Mr. Wm. Wood performed the Cæsarean section, affords ample proof of his unprincipled objections against this operation; and also his unwarrantable confidence in the *crotchet, and his proposed compound operation*. This poor woman resided at Hazlehurst, about eight or nine miles from Manchester: when in labour she was visited by Mr. Ogden, who was also a strong anti-Cæsareanist, who, after having examined the state of the pelvis, sent for Mr. Simmons. When he (Mr. S.) visited the patient he found, to his great mortification, that neither the crotchet or his compound operation were adequate to the delivery of this poor creature. He left the woman without affording her any assistance, and she was afterwards brought over, in a cart, to the Manchester Lying-in Hospital. The pelvis is in my possession, and a cast of it was presented by me to the Royal College of Surgeons of England. —*Case*, Med. Memoirs, by Mr. Wood.

It has been called a "terrible," "inhuman," "cruel," "barbarous," "bloody," "horrible," "murderous," "undesirable," "dreadful," "an unnecessary," and an "unjustifiable operation;" it is said to be a "melancholy catastrophe," and "that the operations as performed were abominations."

Many cases of protracted labour, from distortion of the pelvis, have frequently occurred in my practice, some of which have been terminated by the natural efforts, some by the forceps, and others required craniotomy. Five of these cases required the Cæsarean section; which are quite sufficient to enable me to judge of the contingent circumstances which happened during and after the operation, and authorize me to state whether the before-mentioned terms are warrantable. It is not inevitably destructive, as in two out of the five cases the lives of both mother and infant were saved; it is not a cruel or inhuman operation, because it has been in every case undertaken with the most humane and sympathising feelings, and with the hopes of rescuing the unfortunate creature from long suffering and impending destruction; it is not a barbarous procedure, being recognised by the best obstetric writers, in all civilized countries, as the only available resource to meet the extreme difficulty of such cases; it is not a bloody operation, for in none of these cases was there much blood lost; it is more terrible, horrible, and dreadful to the witnesses of the operation, than to the poor suffering woman herself; she hails with joy any plan which promises to terminate the anguish she has so long endured. Dr. Sims says, "Human imagination can hardly conceive any thing more dreadful than the distressing anxiety of a woman in the pangs of labour, without hope of delivery." It cannot be murderous: to be so, it requires "malice prepense" on the part of the operator; on the contrary, it is done to save two lives. Such an epithet is more appropriate for the crotchet operation. We agree to say it is an undesirable operation: and we hope no man is so wanting in moral principle as to desire such a case to happen in order to gratify his "rage for cruel and bloody operations." The justice and necessity of this operation will be proved in the course of this paper.

A very eminent obstetric practitioner has lately remarked that he is fully satisfied that if in great distortion of the pelvis abortion or the induction of premature labour were had recourse to at the proper season, no case could occur in which the Cæsarean operation could be required. Craniotomy or embryulcia are said to be equal to the delivery of some if not all cases of distortions of the pelvis in which the Cæsarean section has been performed.

These several methods, which are recommended to supersede this procedure, do not all stand on the same moral and professional grounds.

The induction of abortion, and the induction of premature labour, are considered equal to prevent the Cæsarean operation ever being required, even in the most distorted pelvis. Under such circumstances we are recommended to adopt this practice; nay, I should think, from the tone of the author, either the one or the other procedure must be had recourse to, if the practitioner desires to discharge his duty to his patient. This injunction is not alone confined to those cases with which the practitioner must of necessity be acquainted,—at least, that there positively exists a considerable diminution in the pelvic diameters, from his experience in former labours; but it is considered that this practice is applicable, and ought to be adopted, under such circumstances, in first labours.

These statements naturally suggest to the mind an important question,—whether there are any certain indications of the existence of extreme pelvic deformity, during the early period of a first pregnancy, which demand manual examination. The pelvis may be extremely deformed in early life by rickets; and although the disease has been arrested, yet the mischief inflicted on its bones continues, and its diminished diameters bear the same relative proportion to its present degree of development which they did to that at an earlier period. In such a case, extreme distortion of the pelvis may exist, through the whole period of life, without the slightest external evidence, either in its bones or other portions of the osseous system; and therefore this state can only be ascertained when labour has commenced. Internal exostosis may grow from any of the bones of the pelvis, without a suspicion that such a disease exists. These tumors acquire different sizes; sometimes they become so large, and dimish the pelvic diameter so much, as to render the Cæsarean section necessary: and yet, until labour has happened, there were no external marks, which showed that so serious an internal impediment to the progress of the child had previously existed.—Vide case of Cæsarean operation, by Dr. M'Kibbin: Ed. Med. and Surg. Journal vol. xxxv.

Fracture of any of the bones of the pelvis may occur at any period of life: and when they are united, either its inlet, outlet, or cavity, may be very considerably diminished in their measurement. If pregnancy takes place after such an accident, the Cæsarean section may be the only means by which delivery can be effected. This happened in Mr. Barlow's case; and although there was here external evidence that great mischief had been done to the pelvis, yet there was no alternative for this operation; for neither of the obstetricians were acquainted with the pregnancy until called in after the labour had lasted for a considerable length of time: a midwife had been employed in the first instance. But in other cases of this kind of accident which may take place in early life, no external traces of injury may exist, and the occurrence may not be communicated to the attendant, either from the patient having forgotten it, or not considering it of importance to make it known to him.

Mollities ossium, as its name implies, is a softening of the bones, and may attack any portion of the osseous system; but the pelvis most generally suffers from its ravages, which produce every degree of distortion.

This disease is usually progressive, and sometimes remains stationary, except during pregnancy, when it rapidly increases. It very seldom (yet it sometimes) happens that the distortion of the pelvis is so great in a first labour as to require either craniotomy or the Cæsarean section for delivery. The usual course of this malady is to produce an additional degree of mischief during each succeeding pregnancy, thereby rendering necessary a different plan of delivery in each succeeding labour. The obstetrician may, and ought, to avail himself of the knowledge he has had the opportunity of practically acquiring of the degree of distortion at any previous labour, to bring it to bear on, and to guide, his judgment as to what method should be pursued during the succeeding pregnancy or labour. An accurate inquiry during one labour, with a careful examination of the pelvis in the early months of the next pregnancy, will be all-sufficient to direct him in his treatment of the case. In a first pregnancy he has not this information, and, therefore, he stands in a very different position in regard to his professional responsibility. Extreme distortion of the pelvis from mollities ossium may exist, and yet every other bone may be free from disease. The pelvis, in Sir C. Bell's case, was extremely distorted; but the skeleton was of average height, and the bones, especially the thigh-bones, were firm and of full size.

It is true the general health suffers in a greater or less degree during the progress of this disease, and pains like those of rheumatism are felt about the hips and lower part of the back, and the patient's gait becomes different, and her stature becomes less.

If a woman for the first time pregnant applies for professional attendance in her approaching labour, at the fifth, sixth, or seventh month, and on inquiry she complains of the pains above mentioned, and the other effects of the disease are to be observed, then there can be no doubt as to the wisdom of making an internal manual examination of the pelvis; but in many cases such an application is not made until a later period of pregnancy, and frequently even then no statement of local pains is made to the practitioner. He may be a stranger to her, and unacquainted with her former gait or stature, and he must, therefore, be unable to make a comparison of her present with her previous state. Women in the lower ranks of life usually employ midwives, and therefore medical gentlemen are seldom or ever consulted until the labour has continued for some time, when some serious impediment to its advance is found to exist. From the previous remarks it is quite obvious that no knowledge of the existence of extreme distortion can be acquired in many of such cases until after the commencement of labour, when suitable measures for delivery can only then be determined on. But even in cases in which this knowledge may be, or has been obtained, there is no alternative for the Cæsarean section.

A question will no doubt arise in the minds of those who have not had to manage labour obstructed by distortion of the pelvis—Cannot a manual examination of the pelvic diameters be made with such mathematical accuracy, and a decided opinion formed whether the child's head will pass through it?

An accurate exploration of the pelvis is at all times of the greatest practical importance; but, notwithstanding the best endeavours are used precisely to ascertain its capacity, there is great danger of an erroneous computation, especially when it is distorted. The manual difficulties are great under all these circumstances, but are more so when the brim has assumed the triangular shape. The examination should not be confined to the brim-cavity or outlet; but the measurement of every division of it must, as far as possible, be accurately obtained. When it is intended to induce premature labour, we should compute the pelvic space, in relation to the size of the fœtal head, at the period of pregnancy at which the operation is to be done So when craniotomy is decided on (as a rule of British practice), the space must be relatively considered; and, at the same time, it must be remembered that the reduction of the fœtal head cannot be effected beyond certain limits.

Abortion.—The induction of abortion is one of the operations proposed to prevent the necessity of the Cæsarean section; but, in the opinion of the writer, it can only be justifiable to have recourse to it in a first pregnancy. (Vide Remarks on the Value of Embryonic and Fœtal Life, Obstetric Record).

But it is not alone on moral grounds that this procedure is considered inadequate to meet such a proposition. It is physically impossible safely to perform this operation in most of the cases of extreme distortion of the pelvis, especially in those which have a triangular-shaped brim.

An experienced practitioner unsuccessfully attempted to destroy the ovum. The woman afterwards died. The pelvis is in my possession, and is an example of the highest degree of distortion from mollities ossium which was ever presented to my notice.

Other cases of a similar description are on record in which the same results happened. Medicines have been administered to produce abortion in these cases, but the practice is unwarrantable and dangerous. One woman died after taking secale cornutum, but in her case an instrument had been first used. Mrs. Sankey, one of the women already mentioned, who recovered after the Cæsarean operation, became again pregnant. She took, by the direction of her medical attendant, the Secale Cornutum and Infus. Sabinæ, for the purpose of inducing abortion, but it is said they failed to produce it. In more than a month after its discontinuance she aborted a two months fœtus; the placenta was retained: Secale Cornut. was given: on the third day it was reached by the finger and extracted. She died in about five days after the expulsion of the fœtus.

Premature labour.—Premature labour is to be induced, not so much for the purpose of superseding the necessity of the Cæsarean operation, as it is to prevent the use of the murderous instruments, the perforator and crotchet. Whenever the pelvis is so much distorted as to prevent the passage of a full-grown infant without the aid of craniotomy, but will permit one that is premature and viable, this operation must be performed before the end of pregnancy. The longer gestation is allowed to proceed without interruption, the greater chance is afforded to the child to live; but the period at which labour ought to be induced must depend on the degree of distortion of the pelvis. The great consideration here is the probability of the birth of a viable infant. Most writers assert that it has not the power of maintaining an independent post-partum existence until the seventh month of pregnancy. I venture to differ from this opinion, and do not unconditionally accept this limitation: but I think that a shorter period of intra-uterine life would, in many, if not all cases, enable the infant afterwards to exist. I have known one not larger than at six months survive, and another, not more than six months and a half when born, lived to be ten years of age. Cases are recorded of viable infants born at the above-mentioned periods.

The performance of this operation is justifiable on moral grounds, and it is sanctioned by every professional and social principle. Its object is noble: it saves a life which must otherwise be destroyed; and at the same time the woman incurs not much—from my own experience, I can say no more—risks than those which are contingent on ordinary parturition. But, notwithstanding the high value of this operation, it is not warrantable unnecessarily to have recourse to it. Errors (as already stated) in computing the pelvic space may be made. This opinion is corroborated by a case which occurred in the practice of the late Dr. James Hamilton, briefly related by me in Prov. Med. and Surg. Journal, vol. ii. 184, p. 404.

The reader is referred for further information on this important subject to Dr. Merriman's Observations, Med. Chir. Transactions, vol. iii. p. 128; Dr. Hull's Letters, &c.; Barlow; Dr. R. Lee's Clinical Midwifery.

Craniotomy.—It has been asserted that delivery can be accomplished by the use of the perforator and crotchet in all cases of extreme distortion of the pelvis. The following remarks will prove that this statement is not borne out by facts. In some cases of this kind the head could only just be reached, and with great difficulty (to say nothing of the danger) perforated. But this done, the power of the operators ended; all further efforts made to reduce and extract it completely failed.—"Awful catastrophe!"

A consultation was held on the case of a poor woman in labour. Most of those present were Anti-Cæsareanists, and therefore they decided on craniotomy. The head was, with great risk, just opened with the perforator; but every other effort made to deliver this poor suffering creature was unavailing. She was allowed to endure the anguish of parturient pains until the uterus ruptured, and death terminated her agony. The pelvis was greatly distorted by mollities ossium, especially the outlet; and there is no doubt in my mind an erroneous and partial measurement had been made: most likely the brim had been only attentively examined. A cast of the pelvis is in my possession.

In one case, after the head of the infant had been perforated, the Cæsarean section was performed, and it was extracted half murdered.—"Awful catastrophe!"

In another case, after mutilation by embryotomy, the infant was extracted by the Cæsarean section.—"Awful catastrophe!"

Others of a like nature are to be found on record.

In many of the women who have undergone the Cæsarean section, neither the os uteri or the presentation of the infant could be felt. Under such circumstances, how could craniotomy be done? This is the only operation recognized and justified by the British profession which is undertaken with the intention of destroying life. It is only between the value of craniotomy and the Cæsarean section that a comparison need be made. I have been anxious to undertake this important inquiry; and as statistic deductions are so much in vogue at the present day, I put out a letter in the Provincial Medical and Surgical Journal, October 17th, 1849, requesting the members of the Association to kindly send me a statement of all the cases of craniotomy which had happened in each of their practices. But sorry am I to say, only three or four gentlemen have had the candour to communicate information on this subject. It has been said that the statistics of the Cæsarean section are worthless; but how, I cannot understand. Those of craniotomy are completely valueless: hundreds of such cases have been silently consigned to the grave.

Instead of trying to explode the Cæsarean section (as now practised in Great Britain), which the foregoing observations prove cannot be done, we ought rather to endeavour to extend its adoption. I stand fearlessly forward as an advocate for its performance, not only when the woman cannot be delivered by craniotomy, but also in other cases.

I consider that the Cæsarean section should be approved as an operation of election, and not as it now is, one of necessity; and that craniotomy ought to be received in the reverse order.

For a fuller exposition on these subjects, I beg to refer the reader to Remarks on the Value of Embryonic and Fœtal Life, Obstetric Record; Letters, Provincial Med. and Surg. Journal, Oct. 3, 1849; Oct. 17, 1849, Successful Case of Cæsarean Section; August 1849, Case of do., Edin. Med. and Surg. Journal, vol. 55, page 67.

To have entered more fully on these subjects would have extended the paper beyond the space which is allowed in a periodical publication upon whose pages there is such a great demand.

EPIDEMIOLOGICAL SOCIETY.

The paper intended to be read at the next ordinary meeting of this Society, on Monday, April 7th, at half-past eight, P.M., is entitled—"On the Epidemic Mental Diseases of Children," founded chiefly on Hecker's "Childrens Pilgrimages" and "Sympathy."

METROPOLITAN SANITARY ASSOCIATION.

The Committee have made arrangements with M. Soyer for a Public Banquet, on Wednesday, April 30th, at his Symposium, Gore House, Kensington, The Right Hon. the Earl of Carlisle in the chair.

Application for Tickets (one guinea each) may be made at M. Soyer's, Gore House, or at the Committee Room of the Metropolitan Sanitary Association, 10 Craig's Court, Charing Cross.

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

BY JAMES BOWEN THOMPSON, A.B., M.D.,

Formerly Physician to the Royal General Dispensary, Aldersgate Street; late Chief Medical Officer to the British Hospital, Damascus; and Inspector of Health for the Turkish Government; Fellow of the Medical Society of London.

[Continued from p. 452.]

No. IV.

REPORT OF THE BRITISH DISPENSARY, BEYROUT, SYRIA, FOR 1842 AND 1843.

IN drawing up a report of the British Dispensary at Beyrout for the last twelve months, it is my wish to submit to the Committee a simple statement of facts rather than any lengthened reflections of my own. The number and variety of cases to which medical relief has been afforded by means of your Dispensary must be a convincing proof of its great utility, and cannot fail to recommend it to the sympathy of those who feel interested in the amelioration of suffering humanity. The extent of country here without any provision for medical relief on any terms, much less gratuitously, presents a melancholy picture of destitution to the sick and afflicted. I frequently have patients from a distance of thirty or forty miles, which, unlike the facilities of English travelling, entails great fatigue: it is quite common to see patients here from Damascus, which is nearly three days' journey.

It will be pleasing to the Committee to learn that universally a feeling of gratitude prevails among those who have been the objects of medical relief; and the deference paid to British medical science is highly gratifying to myself. And it is a matter which calls forth my grateful acknowledgments to a kind Providence, that I bave been enabled thus far to carry out the benevolent intentions of the Committee without native prejudice or annoyance.

I regret that it was not in my power to make the report more satisfactory by adding the result and detail of cases; but this I found quite impracticable, chiefly arising from the inconvenient distances which a great portion of the people come. Notwithstanding the seclusion which custom has imposed upon the females of these countries, yet they constitute fully half the number of applicants at the Dispensary, which in itself shows how much the people value the benefits of medical relief. My patients consist of Jews, Moslems, Druses, and those of every Christian sect in Syria; and not less varied is their class or rank in society, from the Albanian soldier upward. I frequently have the officials of the Turkish Government and also some of the most respectable Emirs and Sheikhs of Mount Lebanon, with the members of their families: and though such cases may not strictly come within the province of a charitable institution, still, as they gratefully accepted gratuitous aid, I never hesitated to grant it, being persuaded that in so doing I should meet the wishes of the Committee, and impress the Syrians with the true and disinterested nature of that Christian benevolence which animates their friends in England.

The past twelve months have not been marked by any unusual sickness in the country; and I believe we had no visitation of plague, though two cases were reported, but, from the history and result, there is much reason to doubt its correctness.

Ophthalmia.—The universal prevalence of eye diseases in these countries will prepare the Committee for the large number of cases under this head, in which I have included every stage of the disease, from simple conjunctivitis to ulceration or opacity of the cornea, any sub-divisions appearing useless. The disease, if neglected or improperly treated, rapidly runs its destructive course, and the treatment adopted by the natives being mere quackery, the lamentable results are to be seen everywhere. It is difficult to assign the chief cause of ophthalmia in these countries, as it is to be found in all classes and at every age, and under the most opposite circumstances. Exposure, by sleeping in the open air, poverty, and want of cleanliness, have each in turn been named as the cause; but many cases have come under my notice to which none of these causes could apply. I am inclined to think that exposure to the unsubdued light of the sun, arising from the peculiar head-dress, is amongst the most fruitful causes of this disease.

Intermittent fever.—For this disease it is probably as difficult to assign an evident cause. Marsh miasmata is out of the question where the land is parched with drought one-half of the year; and at no period are marshes or stagnant pools to be found of any extent. However, if we omit the association of marsh, which is but a casual circumstance, the theory of decomposed animal and vegetable matter will remain as probable as any other, and as applicable. These effluvia are often more offensive from the absence of water. The disease is here found in all classes and at all ages, and in many cases recurs several times when the patient is supposed to be quite well. In such cases a change of air, either from the plain to the mountain, or the reverse, is attended with the most beneficial result. In cases of long standing, quinine appears to lose its effects. A gentleman told me, some time since, that he had just finished a bottle (ounce) of sulphate of quinine, and ague still hung upon him, appearing at irregular intervals.

Dyspepsia.—This disease is very prevalent here in some form or other, and appears to arise from the large proportion of vegetables cooked with oil which enter into the food of the natives, and the habit of eating unripe fruits.

Pneumonia and *Bronchitis* may be justly ascribed to exposure by sleeping in the open air, and also imprudence, when heated to excess by exertion under a hot sun.

Rheumatism in a great measure arises from the habit of sleeping on the ground with only a mat or rug, and of course any other exposure to night air or damp.

Ulcers, from whatever cause, are prone to assume a chronic character, and become exceedingly difficult to heal. I seldom find any benefit from oily applications: those I generally use are astringent. There is a peculiar ulcer, known here as the "Aleppo button," from its great prevalence in Aleppo. It occurs but once, and is generally confined to one ulcer, beginning as a common pustule, and extending to the size of a shilling or half-a-crown. It runs its course in about twelve months; and, from everything I could learn of the medical practitioners in this country, it appears to resist every kind of treatment till the usual time, after which it dries up, leaving a deep scar, very frequently on the face. I have not had sufficient opportunity of investigating its nature, or the most suitable treatment, as few cases have come under my own observation, and these have not continued longer than a visit or two. For such cases the want of an hospital is very manifest.

Diseased liver is by no means as frequent as might be expected from the prevalence of ague. But the people in general are sober, and ardent drink is little used.

Entropium is frequently met with, and I have operated with success in several cases.

Dropsy is decidedly a rare disease in this country.

Dysentery is not more frequent than might be expected from the number of dyspeptic patients.

Continued fever is generally of the common inflammatory form. I have met very few cases that assumed a typhoid character. In persons of ordinary full habit, fever in this country sometimes rapidly runs to a fatal termination. The practice of the natives is lamentably ignorant, often consisting of rose-water, or some such useless article; but, fortunately, they are fond of bleeding, which, though sometimes injudiciously had recourse to, in many cases is the sole means of saving life.

Urinary diseases, chiefly irritation of the bladder, and sometimes chronic disease of its lining membrane, are rather frequent, and, I think, arise from the excessive use of unripe fruits.

Hernia.—I have not met with a case of strangulated hernia; but, by means of the trusses which the Committee kindly sent me, I was enabled to give relief to several very distressing cases.

Cataract.—Of twenty two cases, I operated on about ten with various degrees of success; some succeeded to the utmost, two were lost by subsequent inflammation,—having returned home at considerable distances, and of course beyond my reach. One case of perfect success was a man, nearly 70 years of age, living nine hours distant from me in Mount Lebanon. He comes to see me occasionally, and on two occasions led other blind men to obtain similar relief.

Paralysis.—Of these cases some were affected in hand and foot; some the two feet; some the two hands; and some the muscles of the face. I have tried electricity and the electro-magnetic influence in some cases with success, in others without any.

Purulent ophthalmia is not a very frequent, but, as elsewhere, a very formidable disease; but, if taken in time, it yields to the nitrate of silver and the ordinary treatment.

Pulmonary consumption is a rare disease in Syria: for such patients, or those having delicate lungs,—if I may judge from one year, which is of course the extent of my experience here,—I think the winter climate of Beyrout is not surpassed by any other for salubrity.

Hare-lip and *Club-foot* deformities are not common. I have operated on those which came under my care with satisfaction to all parties.

Cancer—I have had but one case which admitted of an operation, and this of a trivial nature. The other cases had been long subject to the irritating nostrums of the country.

Syphilitic diseases are not prevalent in this country, and those which have come under my notice were generally of a mild character. I do not know how far justified, but this whole class of diseases is known among the natives as "Habbey Frangee," the Frank disease.

THERMOMETRICAL TABLES.

SYRIA.

1842.	Morning.	Noon.	Evening.	At Noon.		
				Highest.	Lowest.	
Sept. Average	80	87	83	95	80	A heavy fall of rain, with thunder for several hours. Thunder showers very rarely occur so soon: 21st.
Oct. "	79	84	81	91	76	Some slight sprinkling of rain from a passing thunder cloud on 10th and 22nd.
Nov. "	65	71	64	77	64	Eleven days were more or less rainy. Snow on Lebanon the 24th.
Dec. "	59	64	61	76	57	Ten days rainy. On 24th snow fell as low as the village Hamdoon on Lebanon.
1843.						
Jan. "	54	63	58	70	54	Twelve days rainy. Hail, slightly mingled with rain, 9th and 21st.
Feb. "	57	67	58	75	59	Nine days rainy, besides occasional sprinklings.
March "	62	68	61	76	57	Seven days rainy. A remarkable comet appeared on the 4th.
April "	64	68	65	77	58	Rain fell on nine days.
May "	67	73	69	80	60	Rain fell on four days.
June "	72	78	70	84	72	Five minutes' light rain this month.
July "	79	88	80	95	80	No rain.
August "	81	89	83	96	84	No rain.

At Hamdoon, a village on Lebanon, about 4,500 ft. high, the Thermometer stood:—

July "	72	75	73	77	68	No rain.
August "	69	71	70	84*	66	*During a Sirocco.
Sept. "	69	73	72	83*	62	
October "	62	70	69	82*	53	

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* The subsequent reports on climate will enter more into detail, and extend over a period of seven years. The few last winters differ materially from those of previous winters, and were unusually severe, indeed more approaching our English winters than otherwise; but this always is a subject for thankfulness, for it is sure to be followed by a more healthy year, and an abundant harvest.

In all the above instances the thermometer stood in the shade. Rain fell in Beyrout 62 days in the year. At least 12 days of the 62 had but partial showers, leaving 50 days in which there was heavy rain.

The accompanying Report of the British Dispensary at Beyrout for 1842 and 1843, with some tables, gives the range of the thermometer for some months during that period: the subsequent reports, on the diseases and climate of Syria for seven years, will appear in future numbers of this Journal, and the diseases will be treated of in a tabular form, taking them in a nosological order.

The climate of Syria, and more especially of the north of Syria, has attracted much attention for a few years past from the favourable reports of visitors and residents, chiefly invalids from India and Europe. The valley of the Orontes and Bay of Antioch are known, since the days of the earlier Crusaders, for their beauty and salubrity.

The frequent intercourse with Europe and Egypt, by steam communication, at the present time, and the great reduction of the quarantine in the Levant, and acted upon by the Turkish, Egyptian, and European governments, must still render Syria of more importance, and cause it to become a more regular place of resort for invalids.

The arrangements in contemplation just now, too, for the establishment of an invalid depôt near Antioch, and for opening a collegiate institution for the benefit of the children and families of Indian officers, must make this part of Syria of great importance to India, as also to Europe. Indian officers will thus be enabled to enjoy all their full privileges of pay, &c., &c., and derive equal, if not more, benefit from the climate of this part of Syria, than at the Cape, and the difference in the expenses of living to a family is considerable. The health of the younger members of a family, and a cheap and good education, are objects of such vital importance, that it is not here necessary to dwell further upon them; suffice it to say, that those who are interested in these subjects have already expressed their full concurrence in the project, and are active auxiliaries in carrying out the objects in vfew. In our next paper we propose entering more fully into the statistics of climate and diseases in Syria.

On the subject of the quarantine laws the following letters have been addressed to the Editors of the Malta and London Press, in the course of the months of October 1850, and January 1851, and the purport of each letter has been since then officially communicated to Viscount Palmerston, who has entertained the subject very warmly, and addressed the authorities at Gibraltar and Malta thereupon, and I am happy to be in a position to add, with success. The other governments will, as a matter of course, act in accordance with Great Britain, and I trust the Medical Congress shortly about to assemble at Leghorn will do still more on this subject.

To the Editor of the "Malta Times."

Cholera and Contagion.

Sir,—Having arrived on the 18th inst. from the coast of Syria, after a passage of eighteen days, and with a clean bill of health, I was not a little surprised to find we had to perform three days' clear quarantine, for what earthly purpose I don't know nor conceive, nor probably could the seven wise Solons of your island inform me, unless it be, as I presume, from their apprehensions about contagion and cholera, which I gleaned from the perusal of a number of your valuable journal of the 8th inst., and in which you very justly direct attention to the case of H.M. Ship "Frolic," so suddenly and unaccountably attacked by this fearful scourge. Having paid considerable attention to the investigation of this disease for the last fifteen years, and nearly seven of that in Asia, during which period it has been my painful duty to witness as much of this disease as has fallen to the lot of most medical men, in no instance have I seen so much, or of so varied and aggravated a character, as during the month of August 1848: in the city of Damascus, in a population of some two hundred thousand inhabitants, the mortality in three weeks was from ten to eleven thousand souls, and in the whole Pachalick over twelve thousand more, making in all about twenty-three thousand carried off by this dire scourge of mankind. I believe that contagionists entertain the notion that the affection is peculiarly contagious before and soon after dissolution. Now to give one instance, which may serve for many more that I am prepared to mention to controvert this error, is this. It is known to all who have read Sale's translation of the Koran, or Lane's "Modern Egyptians," or have resided in the East, that the Moslems are scrupulously observant about their ablutions during life, and as soon as death takes place it is one of the last melancholy duties performed for the deceased, and is quite a profession, and confined to the barber surgeons in all the cities and large towns; and in case of mortality from epidemic, such as cholera or plague, the duties are very arduous and trying, and likely of all others to subject those men to the risk of contagion: what is the fact, Sir? they are the only class that appear exempt, or least liable to the disease; and it is rarely that an instance is known of its proving fatal to them, even where they have been attacked by the disease. What will your contagionists say to this, Sir? The orientals and other sects, Jews, as well as Christian sects, attribute this impunity of the barbers to their philanthropic and most meritorious attentions to the rite paid to the dead, and in cases, too, where fathers desert their families, and the children their parents, and the husbands their wives. On the other hand, we know well that hospital assistants, nurses, &c., are less liable to contract the prevalent fever of the wards, than many other persons; and to what cause is this exemption attributed, but to their constant residence in the wards, imbibing and breathing contagion' according to your island doctors' opinions· In a series of queries communicated to me from the Foreign Office on this subject, I had an opportunity of expressing my opinion as to the laws by which I believed this morbific SOMETHING—*aura-miasm*, or what you please to call it—*traverses* a country or populous locality, and by my subsequent observations, founded on more extensive experience, and close practical experiments on the dead body by dissection, on the patient in every stage of the disease, by chemical analysis of *all* the fluids and *secretions*, and minute microscopic investigations, the more firmly am I satisfied of the non-contagious nature of cholera morbus so called, "Asiatic" or "Algide." A public paper, Sir, is not the proper sphere for discussions on medical subjects, nor in which I should like to appear; but as there is no medical publication, and as the moment is opportune, I thought probably I may be excused, and rendering the profession and the public some benefit, by these few hasty remarks. I should be most happy to meet the medical gentlemen who are contagionists, or to obtain their *individual* or *collective* opinions, if published, or at a discussion submit my views in reply, leaving the result to the senior medical officers of the army and navy, and civil practitioners not associated in any way with a Sanitary board.

It is well known that cholera has disregarded all sanitary precautions, and presented itself in its most aggravated form amongst the least likely persons or places for its appearance, and terminated in from four to six hours; and when prolonged to a remoter period by medical remedies, it assumed a typhoid character, and eventually proved fatal in from ten to fifteen days at furthest. Some cases have been taken suddenly, and, as they expressed, struck as if by a shock of electric fluid—when the nervous system never rallied, and the patient got from bad to worse till death put an end to his sufferings. Most of the male and female slaves in the Turkish hareems were thus seized, and the mortality amongst this class was dreadful. In Camilly Pacha's hareem alone, the then Pascha of Damascus, and which consisted of seventy-five females, there were about thirty deaths. There was a remarkable peculiarity in the last visitation of the cholera to Syria, from its former visits; it traversed a district of country on the principle of the modern system of what is called circle-sailing of a vessel on an East India outward-bound passage, and returned to the same city or town after some days, attacking a new quarter or street, and has done so even a third time after an interval of several days—from eight to ten, and even longer: this was remarkably so in the north of Syria: at Aleppo, Aintab, and Diarbekir, it decimated *some of the* villages near mount Hermon, where no disease was known to have presented itself at any former period, *at least in* the recollection of the oldest residents. Since the last visit of the cholera there has been more sickness known in the Lebanon villages than for years before—such as ague, bowel and stomach complaints, and a more frequent recurrence of the dangerous bilious remittent fever of the Levant, and which is commonly mistaken for our ordinary typhoid fever of Europe, which is a rare disease in the Levant, and certainly never met with in Syria; though some medical men are of a different opinion. During the visit of Dr. Mahony (Inspector of Hospitals in your island for many years, and deservedly esteemed by all who knew him) to Damascus, in company with Sir Bruce Chichester, in 1845, I had many interesting conversations with him on the subject of diseases of the Levant and Syria, and find, after some years' observation, many of his very discriminating remarks verified.

As it is my intention to publish my observations on this subject as soon as my other engagements will admit of it, after my return to London, I will not offer any further notice of the disease or its treatment here: but, as for any apprehension about the contagious form of the disease, I never had any; and, did necessity or a lack of medical men require it, and that I could prolong my stay in the Island, I should be but too happy to *volunteer my services* to the authorities; and, even did I entertain apprehensions for my personal safety, I trust I would not be found wanting in co-operating with those noble and gallant philanthropists who went and are still ready to go to the aid of the officers and crew of the *Frolic* man-of-war, even were it but for staying for a *day*—nay, for *one hour*—the spread of the disease. In conclusion, I will offer one word, which I trust may create an interest in another and no less deserving a class of men in the merchant service.

The manner of their treatment by owners is most cruel, especially in the smaller vessels: often sent to sea for weeks, nay months, with no medical comforts, wretched accommodation, or worse than none, bad *magotty-weevilly* hard indigestible bread, and no lime-juice, or vinegar, or anti-scorbutic; and, if invalided or disabled, neglected and forgotten. The authorities in your Island may render a great service to this class of deserving men, and to the public at large, were they to require of their sanitary officers to inspect every vessel that comes in or leaves your port, and see that they are properly adapted for a sea voyage; and, if not, to furnish at the owners' expense all the necessary requirements, as specified in the "Bill" introduced into the House of Commons by Mr. Labouchere and Sir Francis Baring. We invite your kind attention to this subject, and feel assured you will advocate the cause of the poor sailor. The apprehensions of your Islanders seem to be such on the subject of cholera, that it was laughable this morning to witness the nicety with which they obliged a man from the ship just in from Syria to pick out a canary's *feather* that happened to adhere to the basket sent on board on the previous day with vegetables: this is minding what the doctors of medicine say, I fear more scrupulously than what the doctors of divinity tell the Maltese.

"Your's truly, &c."

"Beyrout, 29th May, 1845.

"My Dear Thompson,—I did not see you on the morning of my departure from Damascus, which I the more regretted as I wished to thank you very much for your great civility and kindness during our stay there. Very few who visit the East, particularly your very exclusive city, have enjoyed the same opportunities of being introduced at once to the fire-sides of the inhabitants. Thanks to the usefulness of our common profession, and to your own great tact—which I am certain that you could never have accomplished had you not wisely determined not to meddle with the religious prejudices of the people—we saw together the hareems of Moslems, of Jews, and Christians, who, from habit and customs, are not less jealous of the sanctity of their domestic circle; and no where in Europe could we be received with more ease or less of ceremony. I trust that you may long live to promote such good feeling in a town where a Christian but a few years back was treated with every kind of ignominy; you will do incomparable good to your country, by extending its commerce, and by facilitating the inquiries of future travellers.

"The disturbances in Lebanon are very considerable. We saw many armed men *en route*—Maronites and Druses: we rode up to them without fear, and they comported themselves towards us as men who merited their confidence.

"Pray command my services at Malta; and, when you come, I need not say I will be most happy to see you. All our party send their kind regards to you.

"I remain, my dear Thompson,
"Your's sincerely,
"M. Mahony, M.D.
"Deputy Inspector-General.

"*To Dr. James B. Thompson,*
"*British Hospital,*
"*Damascus.*"

From the Times of January 4th, 1851.

"THE LAWS OF QUARANTINE IN THE LEVANT.

"Sir,—In your paper of the 28th ultimo there appeared a letter from Dr. Mayo, upon the value and importance of which it is unnecessary to dwell here, further than to state that the subject therein adverted to well deserves the immediate attention of the local and corporate authorities. My object in addressing you on the present occasion is to inform you, and through you the mercantile public, of the present state of the laws of quarantine as in force in the Levant, and the loss, not only to commerce, but the actual sacrifice of life, incurred in consequence. The subject has already been communicated to Viscount Palmerston at a recent interview to which his Lordship did me the honour to admit me, and on which occasion I stated the facts, as follows:—At present no ship coming from the eastward to Gibraltar can obtain pratique, no matter how long at sea, or from what port in the Mediterranean—yea, even though she possesses a clean bill of health, and has had no sickness on board while at sea. To obtain pratique at Gibraltar the vessel must return to Port Mahon, in the Island of Majorca, and perform her quarantine, before any of her passengers or crew can go ashore at Gibraltar. In two instances the captains of merchant vessels, whose wives were on board, and put in to Gibraltar in a sickly state, had to go again to sea, and they both died in consequence. In a recent case I had the charge of a lady on board the Sultan steamer, and, could pratique have been obtained, I am satisfied this poor lady's life and that of her infant might have been saved; whereas, being obliged to put to sea in a debilitated state, her life was sacrificed in a few days, and that of her infant since its arrival in England. Is not this a most stringent and unnecessary stretch of power on the part of the authorities at Gibraltar? It will be said they are obliged to act so, on account of the stringency of the Spanish code of quarantine laws. Now, in regard to Malta, a merchant vessel any number of days at sea, from the coast of Syria, with no cases of sickness on board, and holding a clean bill of health, is subjected to quarantine, it may be from three to five or more days, according to the caprice of an over-timid board of health; and the means had recourse to is the surest way to expose the parties subjected to quarantine restrictions to any prevailing epidemic at the time. What was the case some time since at Alexandria? A vessel from Tunis, crowded with pilgrims *en route* to Mecca, having run short of water, the people lived on lime-juice, and some partook of salt water:—diarrhœa appeared as they put into port at Alexandria. The health officer reported cholera on board, and the poor people were immured in a broiling lazaretto at Midsummer for 21 days; but two-thirds of the poor creatures died before half the term expired. There was no more cholera amongst them than there was plague; and, even if it were true Asiatic cholera, the mode of prevention here adopted was the one least likely to prove beneficial. Those who have seen and known most of this disease in the East are quite satisfied that quarantine is totally inefficacious as regards its salutary or sanitary influence. Indeed, from my long residence in the East, and from my own experience of the disease in its most destructive and aggravated forms, I am ready to adduce such facts and instances as must satisfy any rational mind that quarantine is worse than useless, as regards its observance during the prevalence of cholera; and, as long as the Levant quarantine staff are paid from the proceeds of their exactions, we may expect to find the restrictions on trade and the sacrifice of life still persisted in. I have, however, great pleasure in stating that, from the feelings expressed by the Minister for Foreign Affairs, at the above-mentioned interview, measures will speedily be adopted to remove the obnoxious restrictions.

"Yours, &c.
"J. B. Thompson, M.D.

"5, Suffolk Place, Pall Mall, Jan. 2."

Cholera at Tripoli in 1850.

The cholera broke out on the 27th July amongst the Jewish population, to whom it was for some time confined: it then attacked the Turks; and lastly, the Europeans, few of whom suffered. It increased rapidly; the deaths from the 10th to about the 25th of August numbering about 50 per diem. It then began to decrease, and, at the end of September, had almost entirely disappeared in the town; the country round about for twelve miles still suffering severely. The population in the town is estimated at 15,000. Soon after the appearance of the epidemic, all those who could left the place; the troops also were removed to some distance, and it was supposed that not more than 4000 to 5000 persons were left in the town: the mortality, therefore, was amongst these. The disease was very malignant; cramps appeared in very few cases; almost all being, when visited, in a state of collapse. Many of the Arabs fell down suddenly whilst carrying loads; and almost all the cases ended fatally. The Consuls got up a subscription amongst themselves for supplying medical attendance and drugs; but the attendance seemed inefficient, very few cures being effected. Soup was also supplied to the poor Europeans, and also to some of the poorer Turks. The English subjects, chiefly Maltese, amount to six or seven hundred. The Turkish Government seemed to take no pains whatever for ameliorating the condition of the natives, and was content to leave the management of the whole affair in the hands of the Consuls. There were no hospitals, no proper medical attendance, and no cleanliness: true, the Consuls caused the streets to be swept and cleared of all nuisances; but the houses were still in the same state of filth and wretchedness; the Jewish quarter especially being crowded and unwholesome in the extreme. The people themselves cannot be persuaded to take the least pains in order to keep their dwellings and persons in a proper state of cleanliness, but are contented to suffer; and they accept with little or no gratitude what kind and philanthropic persons do for their benefit. Towards the end of September several cases of canine cholera appeared: the poor animals seemed for a day or so before the attacks low-spirited and meagre; no appetite, and presenting very much the symptoms of hydrophobia, followed by violent discharges and death. At Misellata, a village about seventy miles from Tripoli, in a healthy situation, amongst hills, where no case of cholera had appeared, the inhabitants reported about twenty cases of the disease amongst the dogs: there was also a very great mortality amongst the fowls; death being preceded by yellowish discharge from the mouth.

Report of the Cholera in the Island of Cephalonia in 1850.

Cases under treatment on the 30th September, when last returns were closed	198
Fresh cases between that day and 8th Oct.	140
Deaths among the cases which occurred previous to the 30th Sept.	7
Of those between the 30th Sept. and 8th Oct	71
Cured	80
Cases under treatment on the 8th Oct.	180
New cases from the 8th to 16th Oct.	449
Deaths	245

[To be continued.]

FEES OF MEDICAL WITNESSES.

On a trial for cutting and wounding which recently took place at Exeter, a surgeon was called to give evidence, when the following conversation took place between the medical witness and the learned judge:—

"The surgeon asked his Lordship, for the information of himself and his professional brethren, whether a medical man was bound to leave his practice and attend a court of justice without receiving any fee? If he was entitled to a fee, what was its amount?

Mr. Baron Martin said they were not entitled to any particular fee: they were bound, like all other of her Majesty's subjects, to attend as witnesses in a criminal court for the benefit of the whole community. There was a sum allowed by the Act of Parliament."

The rules of most counties allow one guinea per day for each day of attendance, with a small additional sum for travelling expenses. Few medical men with such an allowance are able to pay the expenses incurred by attending an assize town at a distance from their homes. It is desirable that an alteration should be made, or in the end criminals must escape through this parsimonious method of dealing with professional men.

MEDICAL GAZETTE.

FRIDAY, APRIL 4, 1851.

THE Resolutions of the Royal College of Surgeons, published in our last number, display a conciliatory spirit, which, we have no doubt, will be fully responded to, even by those members of the profession who have hitherto treated the proceedings of the College Council with suspicion and distrust. It is, we think, impossible to deny that the Council have by these propositions removed the principal grievances which had created a feeling of hostility in the minds of a large section of the profession; and that they have put an end to the National Institute Bill, on which we recently commented.

It will be perceived that, in respect to eligibility to seats in the Council, Provincial and Metropolitan Fellows are placed on a precisely similar footing; and further, that, in place of excluding from eligibility to the Council Fellows who had not practised midwifery or pharmacy during five preceding years, it is proposed that the person nominated does not practise as an "apothecary."

The rights and privileges of *Fellows* are, we think, fully secured by these propositions; and we have no doubt they will meet with the general assent of the profession.

The third resolution embraces the plan of entrusting the examination in *Medicine* to the Royal College of Physicians. We have no doubt that the Apothecaries' Society would willingly surrender their privileges to a properly constituted Board. The general practitioners would then have "a head and home" in the two Royal Colleges of England, and render an Act for the incorporation of a new College unnecessary. There can be no doubt that a most efficient Board of Examiners might be constituted of members of the Royal College of Physicians who are, or who have been, engaged in teaching those branches of medicine which are now included in the curriculum of the Apothecaries' Society.

The last resolution proposes to supply that which has been hitherto a serious defect in the licensing of candidates for medical practice. The Council of the College of Surgeons are willing to take upon themselves the responsibility of constructing a Board of Examiners in Midwifery, or to co-operate with the Royal College of Physicians in forming such a Board.

In these resolutions the propositions of the Council are such as cannot fail to command the assent of all who desire the improvement of the profession. If they should be adopted by the legislature, those gentlemen who have associated themselves for the purpose of founding a new College of General Practitioners will, of course, lose the position as directors of medical education to which they have rather ambitiously aspired. We think better of them, however, than to suppose that they are influenced only by personal motives. Their prediction that nothing further was to be expected from the Council of the College has been falsified; and it remains to be seen whether, under the concessions now made, they will not only consider themselves *functi officio*, but heartily join with their professional brethren in *calling* for an act based on the new resolutions.

If the alterations proposed by the Council, by their resolutions of the [illegible] April last year, and of March 1851, are allowed by the Secretary of State, the following will be the conditions under which

Members will be admitted to the Fellowship:—

Those whose diploma as member bears date anterior to that of the new charter—viz. September 1843—will be admitted to the Fellowship, *without examination*, as they respectively become members of twenty years' standing, on a recommendation signed by six Fellows, the payment of ten guineas, and by the vote or ballot of the Council.

Those whose diploma bears date anterior to September 1844, after they have been eight years in practice will be admitted to the Fellowship *by examination*, and the payment of a fee of ten guineas.

Those whose diploma bears date subsequent to September 1844 will, after they have been twelve years in practice, be admitted to the Fellowship *by examination*, and the payment of ten guineas.

Those who have gone through the lengthened course of professional study required by the bye-laws of the College, and who have passed the classical or mathematical examination, or possess a degree in arts of an English University, will be admitted to the Fellowship by examination at the age of twenty-five, and on the payment of a fee of thirty guineas.

With regard to

Election into the Council.

To be eligible, a candidate must have been fourteen years a Fellow, or twenty years a Member. He must be nominated, and produce a certificate, signed by three Fellows, that he does not practise as an apothecary, and is in their opinion a fit and proper person to be elected into the Council.

He must produce a declaration, signed by himself, that he does not practise as an apothecary.

If the certificate or declaration contains an untrue statement, the election will be invalid.

The voting will be by marked lists, which will be transmitted through the Post-Office to every Fellow, and which must be returned to the Secretary, or handed in personally, on the day of election.

It has been supposed that in addition to the twenty years' probation to which old members would have to submit before claiming the title of Fellow, they would have to pass five additional years before they would become eligible to seats on the Council. One of our contemporaries* remarks—"Thus *twenty-five years* must elapse between Membership and the Council, in the case of all surgeons now to be made eligible to the fellowship," and suggests that country surgeons should at once speak out with sufficient energy and determination, to produce an immediate modification of the objectionable parts of the alterations now resolved on by the Council.

How our contemporary can have constructed a term of twenty-five years' probation we are at a loss to comprehend. Unexamined fellows become at once eligible to the Council by reason of their twenty years' membership, while examined Fellows are not eligible until after a period of fourteen years' fellowship It is much to be regretted that such an erroneous view as that on which we have commented should have been placed before the profession as a grievance unredressed.

The only point on which any discussion can arise is in reference to the probationary period for the conversion of members to fellows. In the settlement of this question it should be considered how many fellows will be added to the present schedule by the adoption of any one of the fixed periods proposed. The addition of a large number, as by the selection of the short period of ten years, would, in our judgment, swamp the fellowship, and render the honour not worth the seeking, or the cost of the fee. All who held a diploma dated previous to 1841 would be fellows, while the comparatively few who had passed the College during the last ten years would be the members; and even this number would be reduced by the withdrawal of those who had during this period attained the fellowship by examination. To every member there would probably be six fellows. This would be a reversal of the usual order of proceeding in the foundation of Colleges, and we do not see what benefit is to accrue from it, so far as the profession is concerned.

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* Lancet, Saturday, March 29, p. 365.

FROM papers now before us it appears that the Commissioners appointed to take the Irish census have resolved upon procuring the fullest information on the social, sanitary, and hygienic relations of the community. According to one form, a return of the number of *sick* is required, with the nature of the illness, and the duration of the attack, on the night of March 30th. This, if correctly filled up, will throw a curious light on the amount of *morbility* in a population. In general, we are confined to a mere knowledge of the mortality, or of the number of deaths. Another return is well calculated to bring out some interesting details regarding the statistics of insanity, and, with other papers, to furnish information of the number of lunatics and idiots who are at large or in confinement in asylums. Some of these documents are especially directed to the authorities of hospitals and workhouses, and are calculated to elicit information on the relative amount of mortality at different periods. We need hardly remark that inquiries of this nature are likely to be attended with great benefit to medical science. No medical practitioner can undervalue accurate information respecting the amount of disease and mortality in a population. Much credit is due to Mr. W. R. Wilde, one of the Commissioners, for the mode in which these census papers have been prepared. We trust that his efforts to procure an accurate registration of facts will be aided by all Irish medical practitioners, but especially by those who hold offices in public institutions. Accurate returns may be the means of dispelling many medical errors, and indirectly of improving medical practice.

Reviews.

The Surgical Anatomy of the Principal Regions of the Human Body. By THOMAS MORTON, late Fellow of the Royal College of Surgeons of England, and late Assistant-Surgeon to University College Hospital; and WILLIAM CADGE, Fellow of the Royal College of Surgeons of England, Assistant-Surgeon to University College Hospital, &c. Royal 8vo. pp. 371. Illustrated by lithographic plates and wood-engravings. London: Taylor, Walton, and Maberly. 1850.

THE published portions of the work on Surgical Anatomy, by the late Thomas Morton, are well known to a large number of surgical and anatomical students. The present volume is a systematic treatise on the dissection of certain regions of the body, in which, also, the principal diseases and accidents to which they are exposed, and the means of remedying these, are delineated and described. We perceive by the advertisement that "the entire work is the production of the late Mr. Morton, with the exception of the Commentary on the Head and Neck and Upper Limb, which was undertaken by Mr. Cadge at the request of the publishers."

The work, thus completed, constitutes a useful guide to the student, and remembrancer to the practitioner. The subjects which it embraces are, the perinæum, its dissection, and that of the organs contained in the pelvis: the development of the perinæum, and the operations which may be performed on that region: the groin, and the dissection of the parts concerned in hernia; the varieties of hernia: the thigh; the dissection of the great vessels, and their ligature: the popliteal region, and some of the diseases which occur therein: the hip-joint and its dislocations: the testis and its coverings, with their more frequent diseases: the dissection of the head and neck: and lastly, of the axilla, elbow, and wrist.

We can speak very favourably of the general execution of the work. The coloured lithographs are, for the most part, well drawn, and faithfully represent the broad features of the regions, and the relations of the several parts. We cannot, however, always very highly praise the execution of the drawings of those parts of the body which are shown beyond the surgical region delineated. If our readers should refer to plate 6, they will find that the human body is grossly distorted, and prominent points are not readily recognised. The drawing represents a femoral hernia; the leading points which are introduced are the entrance to the vagina, the navel, the nipples, and the nostrils: all these much more closely resemble misshapen mountains and pit-falls, or caverns, than the human frame,

We think that in a future edition of this work some of the plates will be improved by being shorn of much that is external to each region.

The woodcuts are well engraved, and very clearly exhibit the points which they are intended to illustrate.

We have on previous occasions commended the separate portions of the work that were published during the life-time of the lamented and talented Morton, in whose fate the profession has learnt another lesson that the greatest ability, industry, and energy, cannot always ensure success, or shield the possessor from bitter disappointment. It has also learnt, (from the productions which this skilful anatomist and surgeon has left behind him), the loss it has sustained in the deprivation of that which he might have accomplished for science, had not moral courage failed him at that point at which the strength of a man's mind should be most manifested, and the worth of religious principle most forcibly exhibited.

We think that Mr. Cadge's contributions in no degree fall short of the original work; and we trust that the volume in its complete form will find a cordial reception from the profession.

Cosmos: A Sketch of a Physical Description of the Universe. By A. von Humboldt. Vol. III. Part I. Translated under the superintendence of Lieut.-Col. Edward Sabine. 8vo. pp. 213, with Notes. London: Longman and Murray. 1851.

We have already noticed the publication of the two preceding volumes of this remarkable work. The Part now before us,—the first half of the third volume,—carries on the subject of physical astronomy in the same philosophical spirit as that which we commended in our former notices. The contents of this part are devoted entirely to the Stars, including an account of the singular variations in form, colour and position, which they have been observed to undergo. The nature of the subject precludes our making any quotations in a medical periodical. We shall only remark, therefore, that the ability and research of its venerable author are everywhere conspicuous, and that this part is well calculated to maintain the high philosophic repute which is justly attached to the name of Humboldt.

Pharmacopœia ad usum Nosocomii Phthisicorum, &c., accommodata. Editio secunda. Londini: Apud Bradbury and Evans. 1851.

We understand that the first edition of the Pharmacopeia of the Consumption Hospital was sold within a few months, and that there has been an urgent demand for that which is now before us. The present edition contains many new formulæ, and has evidently been got up with a due regard to its objects,—namely, a selection of safe formulæ for use in the treatment of diseases of the chest. We have looked through this small compendium of Pharmaceutical information, and can speak of it with approbation. We would especially direct the attention of the reader to the section of *Inhalationes*. Among other novelties, we find here an *Infusum Maticonis*, and various preparations of the Tannic and Gallic acids, which, we have no doubt, will be found serviceable in hæmoptysis. We recommend this little treatise to all who wish for a good selection of the formulæ best adapted to the treatment of pulmonary disease.

Phthisis and the Stethoscope: A Concise Practical Guide to the Physical Diagnosis of Consumption. By R. P. Cotton, M.D. Small 8vo. pp. 97. London: Churchill. 1851.

Dr. R. P. Cotton has here republished the Clinical Lectures on the *Physical Diagnosis of Phthisis* which appeared in this Journal during the year 1849. Those lectures, we have reason to believe, were well received by the profession, and we have, therefore, great pleasure in directing the attention of our readers to their republication in a neat, cheap, and compendious form.

The Stethoscope, and Virginia Medical Gazette: a Monthly Journal of Medicine and the Collateral Sciences. Edited by P. Claiborne Gooch, A.M., M.D., &c. &c. 8vo. pp. 61. Vol. I., No. 1, January 1851. Richmond, V.A. 1851.

There is an old proverb which says, "when a thing is begun, it is half done;" but this is not fast enough for our Transatlantic brethren, with whom a thing is no sooner thought of than it is finished. Thus the editor of our new contemporary informs us that the determination to undertake the publication of this journal,—the arrangements with the publishers, the securing original matters and contributors, the making known his intentions, the obtaining subscribers, the selection of a name, &c., &c., &c., with all the machinery and apparatus of a monthly journal,—all were thought of and completed within a month. May its growth be as sound as its origin has been rapid! If its contributors be as energetic as its editor, we doubt not that The Stethoscope will extend far and wide its promised usefulness as a means of promoting medical science.

We shall confine ourselves at present to the enumeration of the subjects of this first number of the Virginia Medical Gazette: these are—an article on Uterine Hæmorrhage, in cases of Placenta Prævia, and after the Termination of Labour, by Dr. R. W. Haxall; a paper on the Use of Nitrate of Silver in certain forms of Dysentery and Diarrhœa in Children, by Dr. J. J. Thweatt; two cases of Mumps, with Metastasis to the Brain, by Dr. Harvey Lindsly; an account of the Rise and Progress of Thompsonianism, by Dr. Peeble (Thompsonianism is a medical heresy, a random and insane kind of vegetable therapeutics); a case of Deformity of the Mouth, caused by the use of Mercury, with Loss of great portion of the Under Lip, relieved by an operation, by Dr Walter Jones; an Address to the Medical Society of Fredericksburg, by Dr William Browne; Proceedings of the Medical Society of Virginia; Editorial Selections, &c., &c.

Each of these articles is well written and of a directly practical character.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

March 25, 1851.

The President in the Chair.

Previously to the papers of the evening being read, Dr. C. J. B. Williams rose and said, he believed he was not out of order in addressing the meeting at this time, and wished to remind the Society that they had just lost the services of a very meritorious officer, their late Honorary Secretary, Mr. Hawkins, who had taken office for one year. Dr. Williams referred to the great amount of labour this gentleman had bestowed upon this office,—always, Dr. Williams said, a work of no small difficulty, but particularly in his (Dr. Hawkins's) capacity as Secretary to the Council, which required the keeping of all the Society's accounts, &c. Dr. Williams, in conclusion, remarked that during this gentleman's year of office as Secretary repairs had been done to the house which the Society owed to Mr. Hawkins's exertions and he (Dr. Williams) begged to propose a vote of thanks to that gentleman for the great services and benefits he had rendered to the Society.

Mr. Blizard Curling said he quite concurred in the proposal made by Dr. Williams, and felt most happy in seconding it.

The President remarked that he had had frequent opportunities of observing the assiduity, in furthering the objects of the Society, evinced by their late Honorary Secretary, and felt sure the vote of thanks proposed by Dr. Williams, and seconded by Mr. Curling, would pass unanimously.

Case of Necrosis of the Bones of the Cranium, and Removal of large Portions thereof. By JOHN DRUMMOND, Esq., F.R.M.C.S., Deputy Inspector of Hospitals, Melville Naval Hospital, Chatham.

IN 1845 a seaman belonging to H.M.S. "Mutine," fell down some stone steps at Sierra Leone, receiving a contused wound of the scalp, for which he was admitted into the Royal Naval Hospital at Plymouth, in October of the same year.

The bone, which was not supposed to have been injured, was then found to be denuded of its pericranium to some extent (left side of occipital). After an attack of erysipelas, followed by numerous purulent deposits under the scalp, necrosis went on rapidly: there was oozing of pus from beneath the diseased bones, gaping of the coronal and sagittal sutures, the brain pulsating very distinctly in the spaces.

In July 1846 he was removed to Melville Naval Hospital, Chatham. During the six years he has been under observation, there have been repeated attacks of erysipelas followed by profuse suppuration. Both tables of the bone have suffered in some places, in others only the external. About five square inches have been lost from the right side of frontal, right parietal, and squamous part of right temporal. The whole of the occipital, to within a short space of the foramen magnum, is deficient, with the exception of about two inches in the centre of the bone, which are now undergoing the process of separation. On the left side there has been less destruction of the bones, but extensive caries is going on there, and fœtid pus is being discharged from several openings. At no point does there appear to have been any tendency to reproduction of bone or arrest of the disease.

Dr. WEBSTER said that the above case showed how extensively necrosis may go on injuring the bones of the head without proving fatal, and related the history of a case which had occurred eighteen years since in St. Bartholomew's Hospital. The patient was a criminal lunatic, very violent and suicidal. In the absence of his attendant he laid the back of his head on the fire. The result was, that one of his ears was completely burnt off, with other very extensive injuries to the bone and soft parts. He was placed under the care of Mr. Lane. The case terminated in the soft parts being destroyed, and the skull exfoliating. The patient, however, lived for nine years afterwards; and on a post-mortem examination no bony matter whatever appeared to fill up the vacuity. The preparation of this man's skull was in St. Bartholomew's Museum, and showed what extensive disease may take place without destroying life. This patient, Dr. Webster observed, during his fits of violence, was in the habit of butting his head against the wall, but never did so after the accident, and, in fact, became more collected. If the part of the exposed brain in this patient was compressed, he fainted. Dr. Webster, in conclusion, referred to a similar case mentioned in the American Journal of Medical Science.

Mr. SHAW mentioned a case of a patient admitted into hospital with lupus, at first affecting the face, afterwards the cranium. Matter burrowed, he said, under the scalp; suppuration took place, the bone coming away in fragments. This patient recovered in the course of six or eight months, being free from cerebral symptoms, and, Mr. Shaw said, in twenty years afterwards became hemiplegic. There being then some retention of urine, the catheter was introduced with difficulty, from enlargement of the prostate. Peritonitis took place; and after his death ramollissement of the brain was discovered, and a tumor was lodged in the substance of the prostate. Mr. Shaw said, in regard to the cranium now exhibited, it may be seen that in part the opening was filled up by bony matter, and partly by membrane; and he was enabled to show another specimen, through the kindness of Mr. Quain, where there was extensive destruction of a portion of bone. This was taken from an elderly man admitted into the Middlesex Hospital with compound fracture of both bones of the leg, who, some forty-five years previously, had met with an accident which left a cicatrix and a vast space, which was partly filled up by bone, and partly by membrane.

The PRESIDENT said that he believed the process of reproduction was different in long bones, and that when a large portion of the skull is removed, the part does not seem filled up by bony matter, but by cartilage, the edges of the bone becoming bevelled off and smooth. He referred to this appearance taking place in the patella, olecranon, and bodies of vertebræ.

An Account of a Case of Fracture and Distortion of the Pelvis, combined with an unusual form of Dislocation of the Femur. By CHARLES HEWETT MOORE, Surgeon to the Middlesex Hospital.

James Thomas Horsfield, a stone-sawyer, had been crushed several years before death beneath a piece of timber. At the age of 60, he died of disease of the heart and kidneys, under the care of Dr. Seth Thompson, in the Middlesex Hospital. In addition to the immediately fatal disease, the bones were found thickened, heavy, coarse, rugged, and porous; the intervertebral substances composed of calcareous matter and soft cartilage alternately; and the arteries almost everywhere, and the valves of the heart, covered with calcareous matter.

The left os innominatum was found broken across the acetabulum, the left just in front of it. The ischio-pubal ramus was broken on both sides. None of the fractures had united, though considerable masses of callus had been furnished by the reparative process; the left bone remained in three fragments, corresponding almost precisely with its original segments; the right was broken in two. The head of the left femur had been driven between the fragments of os innominatum fairly into the pelvis, and lay only half an inch below the promontory of the sacrum; its trochanter fitted into a hollow excavation which it had gradually worn on the outside of the illium; and the joint was constituted by the thin edge of the ilium, and the top of the shaft of the femur, close to the trochanter. A partial new socket had been formed by the expanded ends of the pubes and ischium. The body of the left ischium was displaced considerably inward, but no material change had taken place, subsequently to the injury, in the form of the bones on that side of the pelvis.

On the right side, the hip-joint was sound, and of course had been more used than the left. The shaft of the right femur, moreover, was removed further from the centre of gravity than the left, by the whole length of its head and neck. Hence the spine, in transmitting more weight to a greater distance, curved forward and to the right in the lumbar and upper sacral region; whilst the acetabulum, unsupported in front because of the ununited fractures of the pubes, became elevated towards the depressed spine and promontory. Partly from the inordinate pressure, and partly from some softness which disease at one time probably induced in the bones, those structures had yielded; the ilium became bent above the sacro-sciatic notch, and the lateral mass of the sacrum lost three-fourths of an inch of its natural breadth. The inlet, cavity, outlet, and sacro-sciatic notch on the right side, were consequently much narrowed, and the promontory of the sacrum was only one inch and a quarter distant from the pelvic surface of the right acetabulum. The ischium was pressed inward and upward, and encroached on the pelvis and perineum, and the symphysis pubes was thrust to the left of the mesial line.

In his remarks, the author, referring to the interest of this case in its relation—first, to midwifery, mentioned that there were three instances on record of an obstruction in the pelvis, similar to that on the left side of the pelvis, but called attention to the deformity on the right side, viz., the gradual elevation of an acetabulum unsupported by a fractured pubes in front, as unprecedented. But the chief interest of the case was surgical. Months, or a year or two, after an accident to the pelvis, and when all seemed well, shortening and inversion of the thigh on the injured side would take place, together with an increasing inconvenience in the perineum. Such symptoms would be explained by the state of the right side of the pelvis, the acetabulum and ischium being pressed up, and the former acquiring a more anterior aspect the more it was raised. On the left side, the limb was shortened more than two inches at the time of the accident, and was now capable of freer abduction and moderate flexion, but no extension or circumduction. After pointing out the difference between the symptoms of this accident and those of other accidents, with which it might have been confounded, the author concluded with some remarks on the disease of the bones, and the remarkable fact of the precision with which the line of the fractures in the left acetabulum and right ischio-pubal ramus followed the course of the original sutures.

After the reading of Mr. Moore's paper, the PRESIDENT said he regretted that the lateness of the hour would not allow discussion to take place on this interesting case.

The next meeting of the Society will take place on April 8th.

MEDICAL SOCIETY OF LONDON.

DR. J. R. BENNETT, PRESIDENT.

Saturday, March 22, 1851.

THE paper which occupied the attention of the Society this evening was on the subject of prison discipline, by Dr. F. Winslow.

The author, in introducing it, observed that the great problems of crime and prison discipline were occupying much public and legislative attention; they were themes which kings, eminent statesmen, and renowned philanthropists, and great philosophers,—men whose names shed an unfading lustre on the epoch in which they flourished,—have not thought unworthy of their study and speculation. He (Dr. W.) thought these subjects had a special claim upon the members of a liberal and enlightened profession. As citizens of the State, they, in common with every other thinking and educated section of the community, were much interested in the political, social, and moral condition of the people. But, apart altogether from their position as citizens,—from their education, habits of thought, and speciality of instruction,—as philosophers trained by education to a course of rigid induction and patient reflection,—as metaphysicians conversant with the healthy and morbid phenomena of the human mind,—as physiologists fully competent to appreciate the condition of man, not merely as a material organization, but a complex organism, combining in mysterious union matter and spirit, and adapted for high and noble purposes,—were they not, he asked, better fitted than any other class to grapple with the abstruse points involved in a successful elucidation of the question under discussion? They were to consider man in his social character, surrounded by good and evil influences urging him on in a career either of virtue or vice. They had to view their fellow creatures not only in their physical aspect, but in their mental and moral relationship to society; to trace the first impulses to crime, the first yearnings towards vice; to well weigh the effects of certain organizations, and physical and moral agents, upon the mind in originating, sustaining, and directing criminal and vicious inclinations; and subsequently it was their duty to estimate the amount of human suffering compatible with the due maintenance of the mental and physical health. Were they not, Dr. Winslow asked, entitled to be consulted on matters so grave and important? The medical profession should show to the executive of this country a willingness and competency to enter the arena, and to discuss with the statesman and political economist the subject of prison discipline. Crime is said truly to have its primary root in the natural corruption of the human heart; and, without Divine agency, vain, indeed, would be all human efforts to eradicate the evil. It was, however, within the scope of human power to remove temptation to crime, to discourage its commission by judicious punishment, to attack its sources and bulwarks, and, by reformatory discipline and religious instruction, to open a road to those higher and holier influences which can alone change the heart and assure the permanence of morality.

On the point of statistics it was difficult to give any accurate information. The extent of moral disease could not be estimated; its magnitude defied all the efforts of the statistician.

It was generally maintained that only a fractional portion of the offences committed were brought to justice, and that a large amount of crimes remained concealed and unpunished. After dwelling upon this point, Dr. Winslow observed that, taking the last ten years, the following was the number of "committals" and "summary convictions:"—

Committals	306,900
Summary convictions . . .	597,600

To show the amount of depraving, demoralizing, criminal, and vicious influences at work in the metropolis alone, Dr. Winslow observed that the subjoined statement had been drawn up from official documents by persons whose veracity could be relied upon:—

Children trained to crime .	16,000
Receivers of stolen goods .	5,000
Gamblers by profession . .	15,000
Beggars	25,000
Thieves, &c.	50,000
Drunkards	30,000
Habitual gin-drinkers . .	180,000
Persons subsisting on profligacy	150,000

To give some idea of the importance of the subject, Dr. W. stated that Mr. Neison, the Actuary, had calculated, supposing the ratio of crime, as it existed in 1843, to extend over the period, that, in 1833, 1,473,140 males above 12 years of age (being about one-fourth of the male population at that age) will have been in prison at some time during the 40 years!

Dr. Winslow then entered into a history of the legislation on the subject of prison reforms, commencing from 1775 to 1840, when the Model Prison was built, and 1848, when the Portland Prison was erected. He thought, as rate-payers, they ought to be acquainted with the cost per cell of some of the recently built gaols. Milbank cost half a million sterling; Pentonville cost £85,000.

Prisons.	Cost per cell.
Pentonville	£162
Chelmsford	300
Reading	200
Birmingham	120
Leeds	132
Aylesbury	153
Winchester	156
Wakefield	125
York Castle	1200

There are four different systems of prison discipline—1. Old associated system; 2. Mixed or classified system; 3. Separate system; 4. Silent system. Before entering upon a discussion of the old associated system, Dr. Winslow referred to the law which was supposed to regulate the intercourse of individuals—viz., that when two persons whose prominent actions have been developed or strongly affected by the same vital impulse are brought into association, the vital element of their respective actions will be increased in intensity by their intercourse. Under the "associated system" of treatment, the prisons were dens of corruption, iniquity, and vice—schools of crime, instead of "hospitals for moral diseases." Every system of debauchery, roguery, and refined vice, was practised. After entering at length into this part of the subject, and illustrating it by examples, Dr. Winslow observed that, if the law had a right to *punish*, the State had no right to *corrupt*. Where unrestricted, unreserved association prevailed among prisoners, such corruption took place, not as an accidental occurrence, but as a positive, direct, and necessary result. The associated system was said to be most appallingly destructive to the morals of the juvenile criminal. To meet this great evil a system of classification was adopted, but without success. Dr. Winslow entered at length into a history of the amelioration of the criminal code, and said unceasing efforts had been made to adapt the criminal code to the spirit of the age, by infusing into penal legislation benevolent and enlightened views of crime and prison discipline. All undue severity was declared to be in opposition to the spirit of the constitutional law. After citing Bracton, Blackstone, Beccaria, and Buxton, on this point, Dr. Winslow repudiated the idea of treating crime and criminal men with undue leniency. The law should be merciful to the public as well as to the prisoner. The penal code should guarantee two things—the almost certain *detection* of crime, and the absolute and speedy certainty of its *punishment*. Punishment must be reformative as well as *penal*. Mere naked correction hardened the heart, and did nothing to lessen the amount of crime, excepting by exciting a feeling of terror. The great object of penal legislation and punishment was the prevention of crime. Directly punishment ceased to be preventive and reformatory it became vindictive and unjust. A class of prisoners was referred to who were hopelessly incorrigible and irreclaimable, their moral sense being utterly perverted and stultified: they constituted cases of *moral anæsthesia*. Such men exhibited only the animal instincts—recognised no distinction between right and wrong, *meum* and *tuum*—no amount of punishment, no degree of kindness, could make any impression on this class: many of them were better fitted for lunatic asylums than prisons. Dr. Winslow gave some account of the introduction of the separate, solitary, and silent systems in America, and afterwards in this country, France, Belgium, and Prussia, &c.; and, after referring to the subject of prison discipline generally, gave, as the result of th most careful examination of official parli mentary returns, the following importa facts in reference to the influence of prisc on mortality, and the general and speci generation of disease.

Prison mortality. — The known regi tered prison mortality is about 19 in 100 cases. A number of prisoners are yearl discharged, said to be labouring unde "incurable diseases;" and, calculating tha one-third of these cases terminate *fatally* the prison mortality will be at the rate o 22¼ per 1000.

General mortality.—In the metropoli the annual mortality between the ages o 15 and 17 is 15$\frac{4}{10}$ per 1000. The mortalit varies in different prisons. At Springfie the mortality is 14$\frac{8}{10}$ per 1000; whilst a Reading it is estimated at 41 per 100 cases.

Taking the two principal metropolita prisons, the mortality stands thus:—

Pentonville . .	18¾	per 1000
Milbank . . .	18½	„

Specific mortality.—It has been computed that, in the metropolis, the mortality is at the rate—

Metropolis	Consumption	4$\frac{4}{10}$	per 1000
	Scrofulous diseases	$\frac{3}{100}$	„
In prisons	Consumption	13¼	„
	Scrofulous diseases	2$\frac{1}{10}$	„

During the first thousand admissio into Pentonville Prison, 11 died of con sumption, and 14 were discharged on the ground, which would be at the rate of 2½ per cent. It should be borne in mind that at Pentonville the prisoners are picked and selected, and that none are admitted but those who are in the best mental and phy sical health. If they are not in a condition to undergo the kind of treatment to which they are subjected, they are rejected by the medical officer. We now proceed to the subject of insanity.

In August 1844* the number of pauper lunatics and idiots in England was ascer tained to be—

Males	7870
Females . . .	9485
	17,355

Of these 390 (220 females, 170 males), or 2·25 per cent., were under 16 years of age—

Leaving	7,770 males 9,265 females	above 16 years of age.

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* The calculations have been based upon this year because the returns were more complete.

Now the estimated population of England at that time was—

(July 1, 1844)	Males . .	8,097,000
"	Females .	8,478,000
		16,575,000,

showing that out of the entire male population 0·98 in 1000 were insane or idiotic, and 1·1 out of the female population.

But as insanity rarely commences before the epoch of puberty (16 years of age), we must inquire how many males and females in the population after that age are insane.

Now the proportion of males at 16 years of age and over being 43·6 per cent of male population, it appears that the male population of England in August 1844, at 16 years and above, was 3,530,300.

In August 1844 it was ascertained that there were 7,770 male pauper lunatics and idiots at 16 years and over, and the estimated male population at and above 16 years at that date was 3,530,300: it follows that out of the entire population at and above 16 years of age, 2·2 of the labouring population are insane or idiots.

To render this calculation more precise, it is desirable to ascertain how many are congenital idiots, and how many demented and insane. The return of 1844, which forms the basis of our calculation, makes the number of idiots larger than that of lunatics:—

Male lunatics	3,902
Male idiots	3,970
	7,872

But this proportion appears to us so improbable, that as we have not at hand any means of rectifying it, we prefer leaving it as it is, and count the lunatics and idiots together.

It is seen that we have calculated the proportion of male pauper lunatics and idiots, at sixteen years and over, to the entire male population of that age; but it would be more precise to calculate the number from the class which furnishes it.

Now the class which peoples our asylums, hospitals, and workhouses, with what are termed pauper (that is, poor) lunatics, is the working class, that class which depends for its daily subsistence on its daily labour, and which has no daily resource in sickness and adversity than public charity. What proportion, then, does the male working population bear to the entire male population? The classification of employments in the census of 1841 enables us to answer this question satisfactorily, and shows that "the proportion of males not employed either in manual labour or some other species of active occupation was 106 in 1000, or 10·6 per cent" (Porter, p. 66). On subtracting this number (10·6 per cent) from 3,530,300 (3,530,300—374,211) we have (in round numbers) 3,156,000 as the adult male working population in 1844. The number of adult pauper lunatics and idiots in England in 1844 being 7,770, and the number of adult working men 3,156,000, it follows (as 3,156,000 : 7,770 : : 1,000 : 2·46) that 2·46 (say 2½) of adult working men in 1000 are insane or idiots.

The cases of mental disorder in the Pentonville Prison between January 1st, 1843, and June 30th, 1850, were 42 out of 3050 prisoners, being 13·7 per 1,000, or 5·6 (5⅗) greater than average. At which rate (were it general) we should have in 1851 near upon 50,000 male pauper lunatics in England alone! It must be remembered that Pentonville excludes idiots and men known to have been insane, being picked men in the prime of life (20 to 40).

In Portland Prison the number of cases of insanity has been 5 in 1450 prisoners, or 3·46 (say 3½) per 1,000, being 1 per 1,000 above the average.

In Milbank—

34 in 18,520 adults, or 1·8 (1⅘) per 1,000.
9 in 2,024 juveniles, or 4·4 (4⅖) per 1,000.

Among the troops on home service, the cases of insanity are stated by Dr. Balfour to be 0·73 (¾) per 1,000 men.

Dr. Winslow left it to those who advocated the separate, silent, and solitary systems of Prison Discipline, and who maintained that they were innocuous in their effects both to body and mind, to explain the preceding rather startling and incontrovertible fact. Undoubtedly a large amount of evidence existed in favour of the separate system. Medical and other scientific men of great eminence, who had examined this question for themselves, gave it as their positive opinion that if prudently carried into operation, it did not deteriorate the general health, or induce more than the average amount of affections of the mind. But the statistical facts laid before the committee on Prison Discipline, which he (Dr. W.) had investigated with much care, did not bear them out in their statements. There was, he maintained, more than one class of criminals who we might, *à priori*, appear likely to be seriously influenced by the separate or *cellular* system of discipline. There were many prisoners whose minds would succumb under the terrible ordeal to which they were exposed. Again, many criminals went into the prison strongly predisposed to insanity, being the children of criminals or of parents who have had crime, idiotcy, or insanity, in their families for many preceding generations. Upon another class of criminals the rigid discipline to which the prisoners were subjected, their regularity of life, absence from excitement, good food, religious instruction, in tranquillizing, calming, and soothing the mind, and thus avert insanity. Although he (Dr. Winslow) thought that the separate system was better than any other plan that had been suggested or adopted, it was his opinion that it required most careful and vigilant watching, and, perhaps, some modification might be introduced which would most materially obviate the mischief both to the mind and body which it undoubtedly gave origin to.

It is unnecessary for us to observe that the above abstract is but an outline of Dr. Winslow's paper, which occupied over three quarters of an hour in reading.

After the reading of the paper a discussion took place among the members, in the course of which some excellent remarks on Prison Discipline, and its hygienic and moral effects, were made by Dr. Webster.

Diseases of the Aortic Valves.

Dr. Crisp exhibited a morbid specimen, taken from an old lady, aged eighty-two, who had died from dry gangrene of the foot. The aortic valves were found to be stiff, dry, and to stand out in such a way that their convex edges were in contact. There were little bony deposits, but the arteries were impregnated with fat. The veins were healthy. Along the course of the posterior tibial artery were found several substances in sacs, surrounded by a cyst. Under the microscope, these bodies were found to consist of lymph and blood corpuscles.

March 17.

Amputation of Astragalus and Os Calcis.

Mr. T. H. Wakley exhibited the patient on whom he had performed this operation, and promised to prepare a paper for the 5th of April, "On Excision of the Joints," in which this case should be embodied with others.

The Mammillated Condition of the Legs in certain cases of Dropsy.

Mr. Nunn read a paper "On a Change which takes place in the Skin of the Legs of Persons affected with Certain Forms of Dropsy." In certain cases of dropsy, and especially in those dependent upon chronic heart-disease, towards the closing stage of that malady, when the legs have become infiltrated with fluid, and when the distension of the skin has arrived at a pitch which seems to threaten its vitality, it will be found that the cuticle gradually cracks, and that an exudation of serum takes place. The skin does not retain the waxy whiteness characteristic of anasarca, but changes to a reddish hue, or the cuticle separates from the true skin, and serum is poured forth more or less freely. The surface next becomes uneven, and, in the course of time, within a few weeks, the whole leg, from the ankle to the knee, is studded with elevations, varying from the size of a pin's head to that of a pea, which in some parts are grouped together, so as to cause larger protuberances. They are moist and shining; around their bases is a whitish pasty secretion, and serum oozes from their surface. A brownish green staining encircles the limb above the tuberculated part in some cases. This state is a result of anasarca, widely different from the ulceration following the formation of bullæ, or the large open sores produced by the separation of sloughs. It is a change, however, not unfrequent occurrence, and has been mistaken for elephantiasis. It is attended with a great deal of pain and smarting. When the tuberculisation of the skin is fully established, a profuse discharge of serum takes place, saturating the bandages. The fluid secreted has a peculiar faint sickly odour. It amounts to many ounces in the twenty-four hours. In proportion to the extent of the tuberculisation and the amount of the discharge is the relief experienced from the oppression of the vital functions, particularly of the respiration. The beneficial change is most striking; the fluttering pulse, the furred tongue, hot dry skin, parched lips, leaden countenance, and the laboured respiratory movements, disappear, the size of the body diminishes, the brain again becomes active, the aspect brightens, and the most sanguine hopes of ultimate recovery spring into existence. When, from any cause, the discharge of the fluid is suppressed, even for a few hours only, it is followed by cerebral disturbance and congestion, and by uneasiness about the cardiac region. From this Mr. Nunn infers that the actual disease causing dropsy is not sufficient to induce death; but that the secondary effects of the effusion upon the vital functions is the more direful of the two agents, and therefore that, if the fluid can find an exit, the patient may exist in greater or less comparative security. But, unfortunately, this effort of nature has a tendency not to be permanent. In the course of time the mammillations shrink, the exudation becomes scanty, and at last entirely ceases, the leg being covered with a dryish scurf. In one instance, the patient survived this last change for more than a year. The preceding statements were illustrated by the detail of several cases which fell under Mr. Nunn's observation, or to which he was called by professional friends, and he then commented on the mechanism of the phenomena, first considering the nature of the discharge, and secondly that of the structural change which takes place in the skin itself. The fluid does not differ from ordinary dropsical fluid; it consists of water and albumen, with a certain proportion of the salts of the blood. No traces of urea could be found in it. Only one specimen, however, had been analysed, and Mr. Nunn, therefore, would be cautious in coming to a conclusion respecting its nature, as it is a point involving the important question of vicarious secretions. Mr. Simon's opinion is, that one organ can vicariously secrete for another only such materials as are common to both; if this be correct, then the presence of urea in the discharge cannot be expected. The relief afforded by the free discharge, Mr. Nunn, therefore, is inclined to attribute to the liberation of the parenchymatous organs from their load of serum, and their being thus enabled to perform their allotted functions. To illustrate the saturation of these organs, he mentioned that a kidney belonging to a person deceased from cardiac dropsy, was of double its usual weight, namely, eight ounces. With respect to the second question, Mr. Nunn was of opinion that the mammillations and tubercles were hypertrophied papillæ of the skin; and he further thought it possible that some noxious matters might be eliminated from the system with the serum. The next question to be considered was, how to favour the development of these secretory mammillæ, and to keep them in a sufficiently active condition. The first, he thought, would be effected by remedies which would soften the epidermis, and stimulate the circulation of the skin, without causing mischief, and both these objects he believed would be obtained by warm fomentations. The ordinary dressing should be a soft linen rag, slightly smeared wifh ung. cetacei.

In the discussion that followed, Dr. King mentioned a similar case, occurring in an intemperate old man, seventy years of age, with hydro-thorax. The decoction of marsh-mallows applied to the leg afforded great relief, and the symptoms of hydro-thorax diminished while the discharge continued. It was, consequently, important to keep up the discharge, and he agreed with Mr. Nunn as to the utility of the fomentations, but did not approve of the ung. cetacea. He could not see any connexion between this disease and elephantiasis. Mr. Hunt did not approve of interfering externally with the limb in these cases; but would be more inclined to act upon the internal organs by hydragogue catharites, diuretics, and sudorifics. He had not had much experience in this disease; but thought there was some analogy between it and cases of psoriasis and of ulcerated legs of long standing with considerable discharge. The general opinion was, that if these be suddenly healed, it may endanger life by determining to the brain or other internal organs; but still it may be done with safety if, at the same time, an internal revulsive action be set up, and the diet diminished. By Mr. Love a suggestion was thrown out, that it would be advisable to establish early in the disease such a drain from the system as is afforded by the mammillation of the leg, before the destructive inflammation occurs. He had been much struck with the relief afforded where nature has induced the state of leg described by Mr. Nunn. He recommended blistering to be tried early in these cases of anasarca. The most soothing application he had found to be the ceratum plumbi cum cretâ. Dr. Hare had seen the mammillated leg in dropsy from albuminuria. He approved of Mr. Nunn's plan of treatment; but not of blistering the leg. Acupuncture might be employed early. Mr. Hird remarked that, in cardiac disease, the mere determination of the inflammatory process to the lower extremity would afford relief to the oppression at the chest without there being any discharge. He thought Dr. Golding Bird's plan of the renal alteratives would be exceedingly valuable in these cases. The quantity of the solid matters carried off in the urine, when the acetate of potash or soda has been given, is really enormous. Mr. Harvey inquired whether, in Mr. Nunn's cases, the secretion of urine was suspended while the discharge was excessive? It was so in a similar case under his own care. Dr. A. P. Stewart described an interesting case of cardiac dropsy with mammillated leg; after which Mr. Nunn briefly replied.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

Dec. 1850.

Mr. Greenhow, the President, related the two following cases of severe burns, in order to illustrate the advantage of abstaining from the use of caustics in the treatment of such cases, the exuberant granulations so often formed during the process of healing being, in his opinion, a provision of nature to guard against the injurious effects of any subsequent contraction.

Severe Burn.

Richard Neale, æt. 23, from Jarrow, was admitted Feb. 27, 1850. When at work at the Friar's Goose Chemical Works, he fell into a boiling soda pan, containing fluid about three feet deep. His legs were immersed for a few instants in the boiling liquid. When brought to the Infirmary, his legs and thighs, penis, scrotum, and haunches, were very red; the cuticle raised in bullæ, containing serum, but in no part quite removed. The bullæ were opened, and the injured parts enveloped in cotton wool, after being well anointed with Liniment. Aq. Calcis.—An opiate, and effervescing draughts, with ammonia, were given.

March 5.—Dressed with Ung. Cretæ. Left leg sloughy, but right leg looks well.

8.—Discharge great and offensive. Slough separating from right leg. Sleeps badly. Delirium at night.—Twenty Black Drops at bed-time.

16.—Sloughs separated; much discharge. Very weak.—Wounds dressed with Chalk Ointment, being previously sprinkled with chloride of lime.

24.—Some improvement. New skin beginning to appear on thighs.

April 6.—Greatly improved. Right thigh nearly healed. Left thigh skinning over quickly. Health and strength better. —Chalk Ointment; Chloride of Lime; Muriate of Morphia; generous diet, with Wine.

May 1.—Wounds healing, but very painful. Occasional diarrhœa, which yields to opiates, &c.

Aug. 14.—Dressed with Lotio Plumbi c. T. Opii.

Sept. 1.—The ulcerated surfaces are extremely healthy. Granulations high. Knee rather stiff: to be rubbed with Liniment. Aq. Calcis.

Oct. 2.—Made out-patient. A place on the calf remains unhealed, but he can dress it himself; and it is thought that change of air may be of service to him. Stiffness of knee quite removed. The cicatrices are all remarkably smooth, and without contractions or deformity. No caustics were applied to the granulations, even when most elevated and exuberant.

John Cliff, æt. 23, admitted May 19, 1850, with extensive and deep burns of both legs, in consequence of sleeping in a field on a heap of burning weeds: after this he wandered about for two days before applying for relief at the Infirmary.

Deep sloughs separated, exposing the patella and several inches of the tibia.

His general health required much attention. Opiates, to procure rest, and sometimes with other remedies (Infus. Hæmatoxyl. &c.), to check diarrhœa; generous diet, with wine in large quantities, &c. The wounds were dressed with chalk ointment and chloride of lime, and subsequently with Lotio Plumbi c. T. Opii. Except where the tibia is exposed for four or five inches, new skin has formed over the whole injured surface, smooth and pliant, and without contractions at the joints.

Nov. 28.—Having misconducted himself, this patient was dismissed, much improved. The portion of exposed tibia still immoveable. The cicatrix of the whole is very soft and pliable, and scarcely at all contracted. Has nearly an entire motion of knee and ankle-joint, going about freely, &c. Quite well, and strong in health.

Mr. Greenhow also related a case of

Traumatic Tetanus,

treated principally by a combination of Calomel, gr. ij., Opii and Ant. Tart. a gr. ⅛th, given every two hours, together with occasional enemata and warm baths.

The patient, a lad, æt. 7, received an irregular contused wound on the outer side of the heel, which was treated by water dressing; and he appeared to be progressing favourably until the sixth day after the accident, when some feverish symptoms presented themselves, and were, on the following day, succeeded by stiffness of the neck and jaws, and spasms, which, with trifling intermissions, terminated fatally on the fifth day after their first appearance.

Dr. Charlton related a case of

Disease of the Brain.

Mr. ——, aged 20, enjoyed good health until about six or seven months before his death, though for some months before this he had complained of an indescribable feeling of uneasiness in the back of the head. The first symptom of the cerebral disease seems to have been deafness of the left ear, hemiopia, tinnitus aurium, and a great difficulty of following the lines or even of making out the letters continuously in books. He complained much of a peculiar sensation in the back part of his head after any exertion, and particularly after running down stairs. Between two and three months after this, he experienced severe and *constant* (?) neuralgic pain on the left side of, and in the fore part of, his head, soon after which severe pain began in the right eye, and the sclerotica of that eye became much inflamed. He was now confined to bed; the bowels were obstinately constipated, requiring, even at this early period, strong purgatives to produce an evacuation. The pain in the head being regarded as neuralgic, he was treated with tonics, which greatly relieved the pain; and he appeared almost convalescent, and was able to get up, when it was noticed that he squinted a good deal, the right eye being that chiefly affected, and he complained that he saw but imperfectly; and he experienced an increase of difficulty in accurately distinguishing objects, such as plants, &c. His temper now became very irritable; the appetite remaining very good, and the strength but little impaired. The mental faculties—the power of memory, &c.—seem at this time to have undergone no change.

He was now recommended to try change of air, and accordingly went to Tynemouth in August last. In walking from the station to his lodgings, he appeared as if intoxicated, and vision was confined to one eye (the left.) He was now again kept in bed, and became at intervals somewhat delirious; the tongue, however, continued moist, and the pulse up to this time was slow, ranging from 50 to 60 beats in the minute.

A week after his arrival at Tynemouth, there was an increase in the delirium, with twitching of the muscles of the right leg. Leeches were now applied to the head, without any apparent relief, and a seton was inserted in the neck. For the last three weeks he had been taking full doses of Hydriod. Potass., and the bowels, which were obstinate, were kept open by Cal. and Aloes in pill, and by enemata. He continued much in the same state, with occasional improvements and relapses, until Dr. Charlton saw him on the 4th of September.

He complained at this time of a fixed pain over the left eyebrow: his temper was still irritable, though he was perfectly sensible, and answered any questions with great readiness. He had now frequent attacks of vomiting, especially in the morning, after drinking a basin of tea at breakfast. It was plain that vomiting was sometimes superinduced by raising him into the erect position, and it certainly was increased by the administration of an enema. He vomited generally after a fainting fit, and then some delirium commenced. He described the pain in the head as of a dull, fixed character, different from the intense paroxysms he had formerly experienced. The pupils were still moderately sensible to light, but one (the right) was less contractile than the other. The bowels were extremely obstinate, requiring often several repetitions of the pills, with calomel and aloes, to produce any effect. The pulse was exceedingly slow, being often only about 50 in the minute.

A few days after, Dr. C. saw him when he was being helped out of bed; he became perfectly weak in all his limbs, with symptoms of general collapse: the right extremities were then noticed to be colder than the left.

The twitching of the extremities ceased a week or two after, and were succeeded by more tonic contraction of the flexor muscles of the right arm and leg, which lasted from five to ten minutes each time, and were always accompanied with delirium. These attacks came on every three or four days. His mind was now evidently affected; he was rarely quite sensible, and in expressing himself often made use of wrong words, and was much irritated when his meaning was not understood. The pulse now became more frequent and weaker, the paralysis of the right side of the face more marked, and the convulsions of the limbs of that side more frequent.

The hydriodate of potass, which he had taken for some time, was now suspended, as it was believed that this medicine had caused the vomiting; and this symptom certainly abated after this medicine was given up. The case thus continued to progress, with occasional attacks of severe pain of the head, until towards the end of October, when he became totally blind. He stated that this occurred suddenly: on waking one morning he found that his sight was gone. It was observed that now the pupils were nearly insensible to light the delirium was more frequent.

During the greater part of his illness there was a degree of paralysis of the face, which, shortly before his death, was much increased. The mouth was drawn to the left side, and the right was expressionless. After he became blind, at a still later period, the convulsive movements extended themselves to the *left* side, when the flexor muscles of the left hand, and the extensor muscles of the right, were invariably affected. As the convulsions increased on the left side, the right gradually became more paralysed. The appetite now failed; severe rigors of the whole frame came on, attended with profuse perspiration.

The pulse, the day before death, was 130: on this day he spoke two or three times sensibly. The right pupil was now observed to be quite contracted, with inflammation of the sclerotic tunic.

On the day of his death he was quite paralysed on the right side, and the left was more or less convulsed.

Examination of head thirty-six hours after death.—Body greatly emaciated; skull remarkably thin; and on raising the skull-cap it was seen that in one place it was nearly penetrated by the enlarged glandulæ Pacchioni beneath.

The external surface of the dura mater was peculiarly rough in certain portions of its extent, especially over the back part of the left hemisphere. The inner table of the skull in apposition with these roughened parts of the dura mater was as if eroded, and very irregular; the irregularity of surface having probably been occasioned by absorption of portions of the bone, and not by additions of that substance, as the eroded parts appeared, when the skull was held against the light, thinner than others.

On examining more particularly the roughened surface of the dura mater, it was obvious that in these portions that membrane was thickened by the deposit of lymph, which was most dense along the course of the blood-vessels ramifying there. This deposit could likewise be plainly seen upon the arachnoid surface of the dura mater, and there seemed to be situated in the cellular tissue between the two membranes. When the deposit was examined with the microscope, the striated appearance of lymph deposits was plainly to be observed, along with numerous exudation-corpuscles. Upon adding a drop of acetic acid, the exudation-corpuscles became much more distinct, while the striæ partially disappeared. The appearance presented by the dura mater reminded Dr. C. of the aspect of the membranes in the fissure of Sylvius, and at the base of the brain, in cases of death from so-called hydrocephalus acutus, — a disease that should, in his opinion, more properly be named scrofulous meningitis.

The external surface of the brain, after removing the meninges, appeared healthy; and on slicing the upper part a good many reddish points appeared, but not more than in many healthy brains. The right hemisphere was first examined. Upon opening the ventricle of that side, it was obvious that a large amount of fluid was contained there; the quantity was not accurately measured, but, as the whole of the ventricles communicated together, it was estimated that the total amount of fluid was from three to four ounces. The brain did not appear to be softened here, but at the anterior end of the ventricle, in front of the corpus striatum, was a cavity, which was separated from the ventricle by a thin wall of softened brain of a reddish colour. This cavity, which was about the size of a walnut, contained softened cerebral matter, mixed with a good deal of blood; in fact, it bore no small resemblance to a recent apoplectic cyst. The contents of this cyst, as examined under the microscope, were blood-globules, with the nucleated cells of cerebral matter: there was likewise a globule or two of fat, and numerous exudation-globules,—the products of inflammation. The fibres of the brain were separated by the thickly interspersed exudation-corpuscles, which were here of large size.

On examining another portion of thi under compression, we found that som large masses which had appeared under th field of the microscope were compos entirely of exudation-corpuscles clos massed together; and Vogel remarks tha where such masses occur, there has usual been a more intense form of inflammatory action, which has occasioned a larger quantity of lymph to be thrown out, and th has aggregated the exudation-corpuscl into one large mass.

The left hemisphere was then examined. The same immense dilatation and exten of the lateral ventricle here existed, but fluid, of a reddish colour, had in a gr measure escaped when the right ventr was first cut open. Upon the floor of ventricle, occupying the whole of the thalamus of that side, was a lobulated mor, about the size of a goose's egg, w lines of red vessels, some of which were e tremely tortuous, running across its surf The most tortuous were distended w black blood. The velum interpositum w here much inflamed, and large vessels e tended from it directly into the tumor. different parts of the tumor there lay sm clots of blood. Careful sections were ma of the tumor, and, contrary to what he first expected, Dr. C. found in it no traces cancer-cells, as they have been described Bennett, and especially by Hannover; the whole mass, which, in the central par was very hard, seemed to be composed cerebral matter, hardened by the depos innumerable exudation-corpuscles betw its fibres. On the surface in several par the mass had softened; but the only tion to its structure under the micros was the presence of innumerable blood-c puscles.

Dr. White communicated the two lowing cases of venous obliteration, by adhesive phlebitis:—

Obliterated Vena Cava Infer

In this case the patient, a stout health looking keelman, who was exhibited to t members of the Society, had lived irregular in the earlier part of his life, and ab eight years since began to suffer from p in the hepatic region, and dyspeptic sy toms, together with some œdema of the r leg. He had nearly recovered from the complaints when, in consequence of expos to wet and cold, he was seized with pa the left groin, great œdema of the whole the corresponding extremity, tenderness along the course of the veins. The le never regained its normal condition, three years afterwards he was admitted a in-patient of the Newcastle Infirmary, consequence of the œdematous condition the limb, and the varicose state of the veins at the lower part of the leg. Shortly after his admission he was seized with a severe attack of phlebitis, affecting the veins of the right thigh, and extending also into the pelvis and into the left leg. On the second day the distension of both lower extremities had become extreme, and the lower part of the abdominal walls and the integuments of the loins were also extremely œdematous. The saphena and femoral veins of both legs were exquisitely tender, very distended, and felt like firm cords, their whole extent being completely blocked up with clots. To relieve the local pain and inflammatory fever (which was of a sthenic character), general and local blood-letting was applied, together with occasional saline purgatives and large doses of calomel. The acute attack having yielded to this treatment, the veins of the lower extremities were found still obliterated, and the limbs presented precisely the same appearance as in phlegmasia dolens.

He continued slowly to improve during the next two or three years, during which time large varicose veins began to make their appearance upon the surface of the abdomen, smaller ones communicating with the pelvis and cutaneous surface of the thighs. Within the last three years varicose ulcers have formed in the legs, which still continue swollen.

At the present time the legs are covered in every part with varicose veins, the deeper seated veins appearing to be altogether obliterated. Numerous large veins from each thigh open at Poupart's ligament into veins extending over the pubis, and there terminate in a large venous plexus, from which numerous large branches, some as thick as the forefinger, pass upwards into the intercostal and axillary regions; doubtless there to pour their contents into the peripheral branches of the superior vena cava. His general health is good, with the exception of occasional attacks of dyspepsia, and a peculiar uneasy sensation in the region of the heart on making any violent or sudden exertion. The sounds of the latter organ are normal. The liver is somewhat enlarged and indurated.

Phlebitic Obliteration of the Venæ Innominatæ.

The patient in this case was a stout, healthy labourer, æt. 38, of decidedly rheumatic diathesis, admitted under Dr. White on 23rd May, 1850, with strongly marked signs of regurgitant heart disease. He had rheumatism some years previously, and had noticed the heart symptoms for the last six months. On stethoscopic examination the heart was found greatly enlarged from hypertrophy and dilatation, with regurgitation through both auriculo-ventricular orifices. The veins at the root of the neck, particularly on the right side, were immensely dilated, and pulsated strongly. All the abdominal organs were greatly congested, and ascites, hæmoptysis, and other ordinary symptoms of heart disease, were also present. The usual treatment was pursued, but without much relief, and in consequence of the painful distension it was found necessary on the 12th June to puncture both legs and feet. Considerable relief followed; but in consequence of the recurrence of the effusion in two weeks the same procedure was again required. This operation, followed by careful bandaging, afforded so much relief, that on the second day he imprudently ventured to walk around his ward, and on the following day erythematous inflammation appeared in both feet, which, continuing to increase, terminated in a few days in the production of an extensive slough on the dorsum of the left foot. The slough separated, and when cast off he was seized one morning with pain and stiffness on the right side of the neck and arm, and on the next day the right arm and side of the neck were found highly œdematous, and the veins in the subclavian space and side of neck were indurated, and painful on pressure. By the third morning the arm was excessively swollen from anasarcous distension. The veins at the right side of the neck were very prominent and painful, distended with firm clots, which gave a firm cordlike sensation to the finger. Severe constitutional disturbance accompanied the phlebitis during the first two days, after which he began to recover. The veins continued in the same state for two weeks, when they began gradually to diminish in size and hardness, and at the end of two months had nearly disappeared. The œdema also gradually decreased; though at the time of his death, four months after the attack of phlebitis, the right arm was still considerably larger than the left. His general health had improved, and the dropsical symptoms in particular seemed relieved by the discharge from the ulcer on the foot, but on the healing of the latter, a month before his death, the effusion again returned, and becoming excessive acupuncture was, at his own request, again employed, with the same immediate relief as on the former occasion; but erythematous inflammation again supervening, the vital powers became exhausted, and he died in November of the same year.

On post-mortem examination the heart was found greatly enlarged and dilated, the auriculo-ventricular orifices patulous, and the valves thickened. The liver was in a state of nutmeg degeneration, and one of the kidneys was almost atrophied. The whole of the large veins at the root of the right side of the neck were obliterated, greatly contracted and diminished in size. The subclavian vein was blocked up by a firm white fibrous clot, evidently organized, and bound by firm adhesions to the walls of the vessel. The neighbouring veins were in a similar condition, and were in like manner perfectly obliterated by the same organized substance. The veins on the opposite side were enlarged, and received numerous branches of unusual size, passing across the trachea and base of the neck from the vicinity of the diseased vessels, towards the venous trunks of the left side. From the arm the blood was returned through large axillary trunks communicating with the intercostal veins.

The origin of the phlebitis in this case appeared to offer some analogy to that of phlegmasia dolens; a suppurating surface presenting to the blood contaminating fluids, the circulation of which might either directly produce inflammation of the veins, or give rise to phlebitis indirectly by occasioning some coagulation of the blood contained in the affected vessels.

ACADEMY OF MEDICINE, PARIS.

March 18, 1851.

Local Application of Galvanism to the study of Muscular Action.

Professor Berard read a report on the researches which have been communicated from time to time by M. Duchenne to the Academy. The reporter pointed out the value of these researches, as having determined the real action of many muscles which, from erroneous notions of their actions, have previously been wrongly named. As an example, M. Berard referred to the *supinator longus*, the action of which Dr. Duchenne had shown to be that of *semi-pronation*. The reporter stated the method by which M. Duchenne applied the galvanic stimulus, using moist sponges instead of punctures, incisions, &c. M. Berard dwelt at some length upon the experiments made by M. Duchenne on the muscles of the face. (These have been noticed by us in our past reports of the proceedings of the Academy.)

M. Berard stated that he had by M. Duchenne's aid discovered that the power of partly closing the eye on the affected side, possessed by persons suffering under complete facial hemiplegia, is owing to the propagation of the action of the muscles the eye to the lid.

The reporter observed that M. Duchen had extended his researches to the musc of the trunk and extremities, and to th by which respiration is performed.

The report expressed a very high opin of M. Duchenne's communications, a requested their continuance.

On the Necessity of Extracting Forei Bodies from Gunshot Wounds.

M. Gimelle read a report, in the na of M. Begin and himself, on an ess M. Hutin, who urged the more freq extraction of foreign bodies and spl from gunshot wounds. A discussion place upon this report among MM peau, Larrey, Malgaigne, Begin, H and Gimelle. The general opinion pressed was that extraction should n attempted if it involved danger to imp tant parts.

SURGICAL SOCIETY, PARIS

March 18, 1851.

Tumor situated in the substance of the Velum Palati.

M. Marjolin exhibited a tumor which he had removed under the following circumstances. The patient was fifty years of age; the tumor. the size of a small nut. M. Marjolin suspecting the disease to be of a syphilitic character, subjected her to treatment by iodide of potassium. No advantage having been gained, he had determined to have recourse to the operation. The mucous membrane was divided down the length of the tumor, and the finger placed behind the velum caused it to project, when it was readily detached. The mucous membrane was not divided posteriorly. The tumor was hard, irregular, and of a cancerous character.

Resection of a part of the lower end of the Humerus.

M. Chassaignac presented a patient upon whom he had performed this operation above the joint. Twenty-two fragments of bone were removed, the effects of the injury inflicted. The chain-saw was employed. The limb was much shortened, and its movements greatly impaired. A small hard tumor existed at the bend of the arm, the nature of which was uncertain, it being doubtful whether it consisted of fibrin of blood, or whether it was a leaden shot.

Tubercle of the Testicle.

M. **Vidal** related a case in which tubercle existed in one testicle only. M. Vidal had been led to form a serious prognosis in these cases, several of which he had found to be but the indication of extensive constitutional disease. M. Vidal pointed out the inutility of castration in such cases.

Fistula opening on the Cheek.

M. Chassaignac presented a patient whom he had treated for a fistula proceeding from the superior maxillary bone, and opening on the cheek. He had divided the fistulous tract within the mouth, and had introduced a thread furnished with a small piece of charpie. The thread, passed through the aperture in the cheek, was then pulled outwards, so as to compress with the charpie that portion of the fistula included in the cheek. The plug had the double advantage of preventing the passage of the fluid, and the adhesion of the divided surfaces. The wound healed in a few days; the suppuration had gradually subsided.

ACADEMY OF SCIENCES, PARIS.

March 27, 1851.

The Pancreatic Secretion in Ruminants.

M. **Colin**, of the Veterinary School at Alford, transmitted an essay containing the results of his experiments on the functions of the pancreas in the large domestic ruminants. The researches of M. Bernard have made it a point of considerable interest to discover whether the properties of the pancreatic secretion be identical, in herbivora, with those which are observed in carnivora. It appeared impossible that the pancreatic juice, in a class the aliment of which contains so small a proportion of fatty matters, should possess emulsive properties, as in carnivorous animals. Nevertheless, this identity in action is incontestable, and its positive demonstration will suffice to constitute the value of these new researches by M. Colin, of which the following is a summary:—

1st. The quantity of pancreatic fluid secreted in a calf of moderate size is very considerable; it amounts even sometimes in an hour, to as much as 273 grammes (= 4095 grs. Eng., or 8oz. 4dr. 15grs). There is little ground for surprise in this statement when it is considered that the average quantity of forage daily consumed by horned cattle contains about 500 grammes (= 7500 Eng. grs.) of fatty matters, which would require 1500 grammes (= 4500 Eng. grs.) of pancreatic fluid for their emulsion.

2d. The secretion, instead of being continuous and regular, manifests variations which give it an intermittent type.

3d. The greatest amount of secretion coincides with the conclusion of rumination, and the few moments which follow. It sometimes also corresponds to the hours during which the animal is feeding.

4th. The fluid secreted only presents its complete emulsive character at the first-mentioned time; it is then thick, viscid, and contains a large portion of albuminous matters, forming a perfect emulsion with one part of oil to three of the secretion.

5th. The fluid obtained an hour and a half after the formation of the fistula is less albuminous, and only forms an emulsion when its quantity is double or treble that employed in the former case.

6th. As a consequence of its contact with oil, the pancreatic fluid, which is alkaline, becomes acid at ordinary temperatures of animals; but this change takes place less rapidly as the albumen abounds, and as the temperature is elevated.

The Causes of the Fibrination and Defibrination of the Blood in different Pathological States.

M. **Abeille** transmitted an essay on this subject, containing his researches with reference to the statement, by M. Marshal, that elevation of temperature increases the proportion of fibrin in the blood, and that agitation decreases the quantity. M. Abeille submitted the following conclusions:—

1. Of two portions of blood drawn from a vein, that which is beaten in the open air presents an increase of fibrin over the portion that is left to coagulate. This augmentation is in relation to the change of colour that the blood undergoes by the beating. 2. That of two portions of the same blood, that which is exposed to elevation of temperature may show an apparent increase of fibrine by the coagulation of albumen. 3. That beating has a greater influence in increasing the amount of albumen than has elevation of temperature. 4. The lowering of the temperature to the freezing point decreases the amount of fibrine by preventing the agitation and exposure of the molecules of blood which occur in beating. 5. Evaporation of the water of the blood is a cause of the relative decrease of fibrine.

Medical Trials and Inquests.

WARWICK ASSIZES.

March 26.

Before Mr. Baron ALDERSON *and a Special Jury.*

IMPRISONMENT OF MEDICAL WITNESSES BY CORONERS. ACTION AGAINST A MEDICAL CORONER.

[THE following case is of some interest in reference to the right of coroners to imprison medical witnesses for an alleged contempt of court.]

SPROSTON *v.* DAVIES.

This was an action of false imprisonment, to which the defendant pleaded "Not Guilty;" and, by way of justification, that he was coroner of Birmingham, and had ordered the plaintiff to be imprisoned for a contempt of his Court during the holding of an inquest. The pleadings were very complicated and voluminous, admirably calculated, according to the statement of the counsel and the judge, to render the matter as unintelligible as possible.

Mr. Macaulay, Q.C., and Mr. Mellor appeared for the plaintiff; Mr. Humfrey, Q.C., and Mr. Hayes for the defendant.

The plaintiff is a surgeon and general practitioner at Birmingham, and the defendant is a physician there, as well as coroner for the borough. The present action arose out of the proceedings at an inquest held on the 8th of October, 1849, upon the body of one Abraham Bullows, who had died of cholera; and the learned judge in the course of the trial commented upon the folly and impropriety of holding such inquests, whereby the privacy of families was invaded without assisting at all in the detection of crime. At the inquest in question the plaintiff, who was the medical attendant of the deceased, was examined as a witness, and the foreman of the jury was now called to prove what took place upon that occasion. He stated that the coroner first asked the plaintiff, "At what time did you first see the deceased?" To which the plaintiff answered, "Between twelve and one." The coroner then said, "When next?" To which the reply was, "Between five and six." In answer to another question as to when he next saw the deceased, the plaintiff replied, "It may be half-past twelve or one." Whereupon the coroner said, "That will not do, Sir. I must have a definite answer. If you have any doubts you must say about." The plaintiff replied "Then say about, Sir; but I believe it was between twelve and one." During this colloquy the plaintiff had been sitting rather behind the coroner, who then said, "Come from behind me, Sir! and take the chair in front of me and look me in the face, and answer my questions in a becoming manner." The plaintiff took the chair in front and said, "Sir, I have endeavoured to answer your questions in a becoming manner." The coroner said, "I was not spoken to in that way;" and the plaintiff answered, "I have treated you as a gentleman, and expect the same treatment in return." The examination of the plaintiff was then continued, and at the end of it the coroner rose and severely reprimanded the plaintiff. He said, "I have been Her Majesty's coroner for ten years, and never so insulted before. As supreme judge of this court (laughter) I will uphold the dignity of the court. Now, Sir, leave the room; go, be gone!" (Laughter.) The plaintiff was about to leave the room, but as he was going he said to the coroner, "You shall hear from me, Sir, in another way;" upon which the coroner called out, "Do you threaten me in the execution of my duty? Come back, Sir." The plaintiff came back, and then the coroner said, "You hold out threats against me?" The plaintiff replied, "I hold out no threat, but you shall hear from me in another way." The coroner then said he would commit him unless he retracted or apologised: but the plaintiff refused, adding, "What I have said I reiterate." The coroner then said to a policeman of the name of Long, who was in attendance, "Take him to Moor-street." In Moor-street the prison is situated in which at that time all persons were detained who were awaiting removal to the county gaol at Warwick. Long, however, instead of taking the plaintiff to Moor-street, took him to the police station in New-street, and the inspector at that police station, when he was told for what cause the plaintiff had been brought there, sent to the coroner to request that he would come and prefer a charge, as otherwise he could not detain the plaintiff. The coroner refused to go or to sign the charge sheet, which described the plaintiff's offence as contempt of Court; but he sent word to the inspector that the plaintiff must be detained, and that if the officer discharged him it would be at his peril. The reading of the charge sheet caused no little amusement. It was divided into columns with separate headings; under the heading "Witnesses," was written "by order of the coroner;" and under the head "Offence proved," was written the word, "Discharged." The learned judge suggested that it was an object worthy of the Great Exposition. (Laughter.) The plaintiff was taken to the police station at ten minutes past nine in the evening, and at ten minutes past eleven let out on bail to appear before the magistrate next morning. On the following morning he did attend in the magistrate's room, and the only magistrate present was the defendant. Upon taking his seat at the table he said, "I take my seat here to-day as coroner, and not as magistrate." He then turned to a policeman and said, "Put up W. Henry Sproston." The plaintiff then stood up, and his attorney then endeavoured to address the defendant, but he would not hear him. He called upon the plaintiff to retract or apologise, but the plaintiff refused to do so; and then the defendant suddenly said, "The case is dismissed."

For the imprisonment of the plaintiff under the circumstances above described the present action was brought. On the part of the plaintiff it was contended that a coroner has no right to commit for contempt at all; and that question was reserved for future consideration in the court above. It was also urged that, at all events, the defendant had no right to commit for an indefinite time, or to any place but the County Gaol or the House of Correction; and that the imprisonment at the station in New-street, and at the magistrate's office on the following morning, was altogether unauthorised, because as soon as the inquest was over the defendant's authority as coroner terminated.

The learned Judge, in summing up, expressed his regret that this matter should have been brought into court. It would have been much better if the two doctors had used the language of the old song, and said,—

> "Brother, brother, we're both in the wrong."

However, in point of law, he had no doubt that the coroner had, at all events, exceeded his authority; for there was no tribunal, except the House of Commons, *which could legally commit to prison for an indefinite time.* If he was wrong the defendant would have an opportunity of setting him right in the court above; and, to avoid the expense of another trial, he would ask them to assess the damages separately for each of the imprisonments complained of.

The jury retired for some time, and found a verdict for the plaintiff—damages, 10*l*. for the imprisonment at the police station, in New-street, and at the magistrate's office, and 1*s*. for the imprisonment during the inquest.

THE NEW LONDON PHARMACOPŒIA.

Sir,—The new Pharmacopœia having now appeared, your readers may be desirous of knowing in what respects it differs from its predecessors; and these, on a cursory examination, will not be found to be numerous.

The College has wisely avoided unsettling both physicians and druggists by the introduction of fresh names to indicate drugs well known, even though the names may not be critically correct according to modern chemistry; and therefore the titles by which they will be described in prescriptions are almost without exception unchanged. In a subsequent communication I purpose to enter more minutely into the changes which have been made, confining myself, in the present instance, to generalities.

One of the most important alterations which has been made is the transference of many compounds from the preparations to the Materia Medica, the College being satisfied with giving the tests to indicate their substantial purity, rather than describing the methods of their formation. Thus sulphate of quinine, iodide of potassium, the bicarbonates of potash and soda, ether, and a multitude of others, are now placed in the Materia Medica. The tests are in many respects materially improved, being directed to the detection of the probable or important impurities with greater exactness than in the old Pharmacopœia; and they are now placed immediately after the substance, instead of being collected into one place apart under the head of "Notes." At the same time, the College has adhered to its old plan of giving numerous characters which indicate the nature of the substance without any reference to its purity.

In the description of the sources from which the vegetable substances in the Materia Medica are derived, the College has exercised great care. Thus the source of the cinchonas is acknowledged to be unknown when it is so, and those which are known are now referred to their true source. In this part of the work also (the second column in the Mat. Med.), the modern scientific names are given for various chemicals, to obviate the charge of ignorance which might have been made had the old names been retained in prescribing, without any mention of the advances of science in this respect. Thus the old-fashioned *sesqui*sulphuret of antimony and arsenic are now described under the name of *ter*sulphuret in the Materia Medica; though the names of oxysulphuret of antimony, and liquor potassæ, arsenitis, &c., remain unchanged, that there may be no confusion in prescribing them.

A number of remedies, of comparatively modern date, are introduced. Cod-liver oil, chloroform, gallic acid, tincture of aconite, extract of nux vomica, atropia, ammonio-citrate of iron, concentrated infusion of cinchona, &c.; but a number which might have been looked for have not been introduced, though they have a place in the new Dublin Pharmacopœia,—*e. g.* matico, the valerianates of quinine, zinc, or iron, and glycerine. Some substances, also, have been erased—as the bromide of potassium, and biniodide of mercury.

In some instances commercial drugs are now ordered instead of chemically pure ones, which occasions an apparent, though not a real change, in the strength of various preparations. For instance, commercial nitric acid is now ordered instead of the pure acid of the last Pharmacopœia; but the strength of the former is so much less than that of the latter, that in making dilute nitric acid one part of acid to six of water, or thereabouts, is now ordered, instead of one part of the stronger acid to nine of water, as in the last Pharmacopœia. The strength, however, of the dilute acid really remains the same, and the physician will not have to make any change in prescribing it, though it will require care on the part of the druggist not to mistake the character of the acids which he employs, but to use the weaker commercial acid of the present, instead of the strong, pure acid, of the last Pharmacopœia.

In the pharmaceutical department matters remain much as they were. Tinctures are still made in the old-fashioned way, by maceration, percolation not being even alluded to; and the extracts are still ordered without reference to the employment of evaporation in vacuo.

In my next I will enter more into detail as to the changes which have been made.

J. Birkbeck Nevins, M.D., Lond.

Liverpool, March 1851.

ROYAL ORTHOPÆDIC HOSPITAL.

The twelfth annual meeting of this institution was held on Friday last at the Freemasons' Tavern, Mr. Quarles Harris in the chair. The report, after alluding to the loss the hospital had sustained in the death of the late Duke of Cambridge, stated that her Majesty, out of the sum set aside by her from the Prince of Wales' income, had given 250 guineas to purchase the right of His Royal Higness to have a patient always in the wards. His Royal Highness the Duke of Cambridge had for the present declined the invitation to become the president. The receipts had increased, but not in proportion to the wants: 310 persons were now applicants for admission. The total number of in and out-patients for the past year was 1455, and since the foundation of the hospital 10,570 patients had been relieved. A bazaar in aid of the funds was in preparation, for which contributions were solicited, and Her Majesty and Prince Albert had promised to subscribe to the building fund. The balance sheet showed—receipts, £2162. 3s. 2d.; expenditure, £1886. 12s. 8d.; balance in hand, £275. 10s. 6d., besides £544. 4s. 4d. Three-and-a-Quarter per Cents. Reduced invested. Tradesmen to the amount of £1257. 12s. 1d. were unpaid. The report having be adopted, it was stated that the commit had taken upon themselves the responsi lity of the debt. The Chairman said t question was whether to reduce the n ber of patients, or whether the govern would enable them to pay the debt. T stock was reserved to indemnify the tr tees for the lease of the building, and cou not be touched. He was happy to inf the meeting that since the making the accounts, which showed the £1257, about £150 had been paid.

BIRTHS & DEATHS IN THE MET

During the Week ending Saturday, Ma

Births.		Deaths.	
Males....	947	Males....	73
Females..	833	Females..	6
	1780		141

Causes of Death.

All Causes ....

Specified Causes ....

1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*...

Sporadic Diseases, viz.—

1. Dropsy, Cancer, &c. ....

2. Brain, Spinal Marrow, Nerves and Senses ....

4. Heart and Bloodvessels..........

5. Lungs and organs of Respiration

6. Stomach, Liver, &c. ....

7. Diseases of the Kidneys, &c. ....

8. Childbirth, Diseases of Uterus, &c.

9. Rheumatism, Diseases of Bones, Joints, &c. ....

10. Skin..............................

11. Premature Birth..................

12. Old Age ....

13. Sudden Deaths....................

14. Violence, Privation, Cold, &c....

The following is a selection of the numb Deaths from the most important speci

Small-pox..........	12	Convulsions...
Measles.............	35	Bronchitis ..
Scarlatina	70	Pneumonia..
Hooping-cough....	62	Phthisis ......
Diarrhœa...........	20	Lungs ....
Cholera.............	1	Teething ......
Typhus..............	38	Stomach ....
Dropsy	14	Liver........
Hydrocephalus	39	Childbirth ..
Apoplexy	32	Uterus ...
Paralysis	30	

Remarks.—The total number of deaths w 346 *above* the average mortality of the of *ten* previous years.

METEOROLOGICAL SUMM

Mean Height of the Barometer ....

„ „ Thermometer^a ....

Self-registering do.^b .... Max. 58° Min.

^a From 12 observations daily. ^b Sun

Rain, in inches, 0·80.—Sum of the daily obser- vations taken at 9 o'clock.

Meteorological.—The mean temper the week was 2°.4 *above* the mean of the

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NOTICES to CORRESPONDENTS

We are obliged to Dr. G. Robinson for the pa which he has forwarded to us.

Dr. Snow's communication shall be inserted possible, in the following number.

"An Observer" must attach his name to his letter, or it cannot be inserted.

Corrigendum.—In Dr. Paterson's paper, 543 in our last number, for "the mortality acclimated did not probably amount to 6 per cent.," read "1 per cent."

Lectures.

THE GULSTONIAN LECTURES FOR 1851.

Delivered at the Royal College of Physicians.

By Edward Latham Ormerod, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

Lecture II.—Part II.

III. Morbid Anatomy of Valvular Disease of the Heart.
(continued.)

Valvular Lesions resulting from specific inflammatory or other affections.

The form of valvular disease remaining to be considered differs generally from that just described, in the same manner as inflammation in an unhealthy individual, or in a diseased part, differs from the same process in an individual, or in a part of a healthy constitution. The elementary process may indeed be the same, for of the nature of this we are in almost entire ignorance, and necessarily so; but the ultimate results are different, for the organic elements, though similarly combined, are differently constituted.

Probably, in its lesser manifestations, this form should not be considered as inflammation at all, except in that vague sense in which we habitually attribute all slow organic changes to chronic inflammation. It is the form of disease to which the lining of the heart and great vessels is specifically liable, under the influence of no more immediately exciting cause than what the advance of years and the circumstances of civilized life supply.*

But to produce any thing beyond these lesser manifestations, or the monstrosities (I know of no term short of this sufficiently expressive), which we occasionally meet with, something more active is required. Such might be acute inflammation, such the condition of the system which accompanies that renal disease with which this form of cardiac lesion has appeared to be connected.

The growths which characterise this form of valvular disease display themselves at the earliest period, as already noticed, as little filaments or buttons attached to the edges of the valves. At this period they are so minute, and their specific characters are so little developed, that it may seem at first sight almost unreasonable to attempt to connect them with the larger masses, which there will be occasion to describe, as their complete manifestation. The argument for their connection rests, however, pretty surely on the occasional coexistence of these two extreme degrees in the same case; on their habitual occurrence, when separate, in cases of a strictly analogous nature, and on the observation of many intermediate gradations by which the change from one to the other may be most satisfactorily traced.

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* I am indebted to Dr. Bond, Regius Professor of Medicine at Cambridge, as on many other occasions, so here also, for the notes of the following very interesting case. Its connection with the present part of the subject lies in a small compass, namely, in the description of the extremely characteristic morbid changes. But the symptoms dependent on these morbid changes are too striking to be passed over. I have given, therefore, the case at length, almost in the words which Dr. Bond has kindly communicated to me from his note-books.

A gentleman of more than sixty years of age presented the ordinary symptoms of hectic fever. He had two paroxysms recurring pretty regularly every day, viz. at 4 A.M. and at 4 P.M. He lost his appetite, and wasted away; and he had all the appearance of senile phthisis, from which he was popularly supposed to be suffering.

But a more particular examination disclosed the existence of a diastolic murmur at the base of his heart, and of an intermitting pulse, and his breathing was uneasy during his sleep.

Such were the symptoms for about four months. During the last few days of his life the dyspnœa became more urgent, compelling him to the upright posture, and expiration being accompanied by a peculiar involuntary sound, like that which paviours make. But occasionally the dyspnœa subsided of itself, coincidently with a large discharge of urine.

On the evening of April 17 he was in great distress; the dyspnœa was intense, but his position was prostrate; he had constant jactitation, and intolerance of the least confinement by the bed-clothes; his mind wandered, but with lucid intervals; there was fair power in the pulse. Towards morning all these symptoms were relieved upon a free action of the bowels and kidneys. He passed that day altogether calmly, and died, in a moment, on April 19, as he was rising from his bed.

On examination of the body:—The lungs were found œdematous, but free from tubercle. The heart was enlarged in all its dimensions, its muscular structure rather flabby; the left side and the entire thoracic aorta were tense with recent coagulum, which entirely filled them; the mitral, and more especially the aortic valves, were fringed, and their surfaces covered with caruncular vegetations,—some forming conical projections, others pendulous—one remarkably long,—of different consistence, but all reducible by pressure with the finger.

Dr. Bond tells me that he has since met with a somewhat similar case, where with a more chronic cardiac affection, declared by a similar diastolic murmur, there was a distinctly marked daily hectic paroxysm. In this case, the constitutional symptoms subsided upon some blood being taken from the scapular region, as indicated by the other symptoms. The same hectic had also been seen in one other case by Dr. Watson, who was in consultation with Dr. Bond on the case above narrated.

My friend, Mr. Scott, of Brighton, had also recently under his care a case very similar to these two less marked ones. Dr. Bond's narrative seems to illustrate the fuller development, and to supply the explanation of the anomalous symptoms in all three of them.

From the observation of a single filament or two, the next step is to that of more growths of the same form, but of larger size. At this point, with the increase of size, the difference between the little pedicled growths and the simple filaments becomes more distinct. Leaving the former, however, for the present, to return to them under the name of Laennec's globular vegetations, we may here trace the successive changes of these filaments from their first indistinct rudiments till they become the broad leathery excrescences which give their name to this form of disease.

The appearances observed in the case which supplies the next observation, in order of time, of the progress of these filamentous growths, are very characteristic. They are described in the notes of the case as long growths of fibrin hanging from the free edges of the valves; two of these long, soft, gelatinous tails floating loose in the stream, while the third, which was of a deep red colour in parts, and sprung more immediately from the corpus Arantii, sat closely, so as to form a double tuberosity on the valves.

From this stage the progress of growth is distinctly to be traced as the threads become flattened, so as no longer to merit the names of filaments, into long, strap-shaped, or triangular excrescences. Smaller processes, however, are generally found in company with the larger masses, whose forms, while they display the stages through which the masses have attained their present irregular development, point to their possible origin in some cases by rupture of chordæ tendineæ.

It is to these growths that the names of combs, wattles, cauliflowers, and so on, have been applied, as descriptive of their external form, and sufficiently expressive of the difference which subsists in that respect between them and the beading so characteristic of the results of rheumatic endocarditis.

But other processes than the mere addition of new matter on the exterior are generally required to produce these appearances. The effect of simple growth is merely to form long processes or filaments. It is to the other processes, which advance simultaneously with growth, namely, earthy or atheromatous degeneration, laceration, and perforation, of these, and of the parts in their immediate neighbourhood, that the singularity of their form, and the grave extent of the lesion, are mainly owing.[*]

A more minute inquiry into the nature of these morbid changes gave the following results. As before, the most satisfactory single observations, rather than the general inferences, are detailed.

In one case the growth is described as soft and leathery. It sprang rather from the interior than from the surface of the valve, and the endocardium stopped abruptly at its root. It was possible to distinguish in the mass numerous small granules and some fat. This growth had given origin to a similar one on the corresponding edge of the other flap of the mitral valve.

Another case of the same kind displayed soft growths, over which the endocardium was not continued, but was thickened in their immediate neighbourhood. The growths had a granular, not a fibrous texture; they were insoluble in ether and acetic acid, but soluble in liq. potassæ. Throughout the soft mass were scattered cubic crystals, with striated facets, soluble with effervescence, in hydrochloric acid. These crystals were accumulated chiefly on the surface of the diseased parts. The same granular texture was observed at the ends of some ruptured chordæ tendineæ which were found in this case.

The above may be taken as fair instances of this second form of disease in its most characteristic development. But I think that, whatever general rules might be laid down, it would be impossible to tell, from the microscopic examination only, and at particular periods and under very favourable circumstances, what was originally the cause of the disease of the valves. At least, after some pains spent in the inquiry, I am sure that I cannot certainly do so.

There is one very important distinction between growths of this kind, and those which result from rheumatic endocarditis; namely, the minute distance which separates the points where we may find, generally, the growth advancing, the traces of its degeneration, and a healthy state of the valve from which it has sprung. All these may be seen within the space of three or four lines. This fact quite falls in with a result of general observation elsewhere noticed; namely, that the products of disease bear the stamp of their origin upon them in their tendency to undergo certain ulterior changes, and to decay nearly in proportion to the rapidity of their growth. But it illustrates another very important point; for it has been shown, when on the subject of the first form of disease, of how serious a nature were the changes implicating the structure of the valve, and creeping back into its substance. Such changes are in this form almost entirely wanting. The substance of the valve is affected to no further extent than the existence of the growths would seem sufficient to explain. Even to this extent the different tissues are not matted together: though they are thickened, they appear even looser than natural. On the one side they shade rapidly off into the healthy structure of the valve ; on the other, the change into the morbid growth is still more abrupt. The affection of the endocardium especially would seem to be quite secondary, for it commonly terminates abruptly at the edge of the growth, just as the skin does sometimes at the edge of a malignant tumor springing from a different subjacent tissue; and for the reason that this form is not primarily and essentially a disease of the endocardium.

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[*] See Watson's Lectures, vol. ii., p. 286, for a description of two cases of this kind.

The large size to which such masses may attain in patients scarcely arrived at manhood, or even at puberty, is very characteristic of this form of growth. In one patient, aged 21 years, one of these growths from the aortic valves measured 1¼ inches in length.

With these large masses obstructing the onward flow of blood, and with such extreme disease of the valves, it is at first sight almost inconceivable how the circulation can be maintained. But their form and consistence in some degree explain this; at least, as far as concerns the sigmoid orifices, where it is most commonly that they attain to such a size. For the elongated masses or tails floating loose in the onward stream would not obstruct the circulation so much as, from their size, might be imagined; and, during the diastole, there can be little doubt that valves, growths, and all, are jammed down by the backward pressure so as to plug the orifice and prevent regurgitation. Auscultation, at least, tells us that a diastolic murmur is repeatedly absent in such cases.

But this contingent advantage of the soft yielding nature of these growths is more than compensated for by the liability to a most serious accident which not uncommonly befals valves thus affected. Evidence of such an occurrence may be found in their frequent coincidence with torn or perforated[*] sigmoid valves, and in the ruptured chordæ tendineæ, which cannot always be distinguished from the original filamentous growths. It is important to notice such a secondary lesion, as tending to show that the integral structure of the valve may be altered more than its external appearance might lead one to expect. For such lesions sometimes take place at a point not connected, by visibly continuous changes of the endocardium, with the seat of the principal organic lesion.

The term *ossification*, as implying the formation of anything possessing more of the physical properties of bone than hardness, is scarcely applicable to the changes which ensue in this direction in these cases: that of earthy or calcareous degeneration seems more appropriate. Their importance can scarcely be over-rated; for the existence of the rugged earthy masses thus produced is quite inconsistent with the pliability and the maintenance of that elongated form which alone render the effects of the original lesion less serious. And it is a change which these growths are singularly liable to undergo.

The above description needs but little alteration to be applied to the allied form known as Laennec's globular vegetations. But let the following narrative in the same way supply the place of any more abstract description of these growths, reserving the points of difference for subsequent consideration. The lesions were extreme, and, apart from the immediate object with which the case is cited, it displays well the connection of congenital malformation and albuminuria with disease so extreme and of such a kind.

Thomas Blakey, aged 22,[*] a hawker married, temperate, habitually healthy, bu always incapable of any great exertion, owing to shortness of breath and palpitation. His mother died of disease of the heart. Once, when a child, he was in imminent danger from a sudden attack of dyspnœa, with lividity; but he has not been usually livid. Eight weeks before admission, after exposure to cold and wet, his feet began to swell, and his symptoms continually increased, till he was admitted with anasarca, ascites, palpitation, dyspnœa, and pain in the right hypochondrium.

On *auscultation* there was a purring tremor over the cardiac region, with forcible impulse and extended transverse dulness. There was a loud, harsh, double murmur over the whole cardiac region, most intense at the junction of the fourth rib with the sternum, but heard also in the ascending aorta. A loud systolic murmur was audible in the epigastrium, and thence was communicated upwards over the region of the right ventricle.

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[*] Two cases of this nature have been detailed by Mr. Thurnam (Med.-Chir. Trans., vol. xxi., p. 256); one from the notes of Dr. Watson, the other from the Museum of Guy's Hospital. They had each only two aortic valves, both of which were thickened and one perforated. Dr. Watson's case had suffered acute rheumatism, and had apparently diseased kidneys. I do not quote these as being rare, but in order to collate my own experience with that of others. Also Bouilland (Rhumatisme Articulaire, Paris, 1840, p. 146) describes a case where, in connection with a growth of this nature, one of the aortic valves was perforated.

[*] Ed. Med. Surg. Journal, vol. lxv.: "On a Systolic Murmur in the Pulmonary Artery," this case is more briefly detailed.

He died in the course of about a month after his admission, the fatal termination being accompanied by pericarditis.

The heart was found, on dissection, generally much enlarged. The tricuspid valve presented, along its free edge, a number of little globular excrescences of a yellow colour, some of which had little irregularly excavated depressions at their free extremities. There were only two pulmonary valves, both of which were thickened and opaque, and had large masses of fibrin, mixed with earthy matter, attached to their free border. One of these masses, three-quarters of an inch in length, which now hung into the cavity of the ventricle, seemed to have drawn out the narrow portion of the valve to which it was attached, by the resistance which it had offered to the stream of the blood. The lower surface of one portion of the mitral valve was crusted with vegetations like those on the right side of the heart; otherwise, like the aortic valves, it was healthy and apparently efficient. There was a free communication, apparently congenital, between the two ventricles, opening, from behind the large carnea columna of the right ventricle. The sinus of the pulmonary artery was considerably dilated; there was much atheromatous disease of the coats of the aorta.

These are changes not to be misunderstood; they interpret themselves. And the symptoms in some of these cases are equally characteristic. They may have been quite absent, or, as more commonly happens, present all life in an extremely low degree. But when they are at length fully aroused, they run on to death with great rapidity. And such are the morbid changes on which they depend.

The comparative rarity of these particular growths necessarily renders the description of their successive changes in so far incomplete. But the two extremes are well marked, and we do not need many intermediate links to connect them. One of these extremes has already been described as displaying little yellow globular growths hollowed out with small cup-shaped cavities, bearing some resemblance to the common cup-moss. The other extreme, illustrating the earliest stage, displays them as round granules (studding the edge of the tricuspid valve in the case to which this description particularly refers), rough and apparently partially abraded at their summits, but not as yet softened within; and co-existing with perforation of the mitral valve. The morbid appearances tell their own story of the intermediate processes. The mass softens from the centre, till the shell is no longer able to retain its fluid contents; then the globule ruptures, and the little stem and shell are left behind like a cup, [illegible] the rest is hurried along the current of th[illegible] circulation. The mechanical influence [illegible] which these vegetations are exposed, ow[illegible] to their position on the valves, does [illegible] allow the internal softening to advance [illegible] before the growth ruptures. And an exa[illegible]nation of these masses, as they are foun[illegible] the valves only, would favour the belie[illegible] they are abraded from their summits [illegible]wards. The examination, however, of [illegible] larger growths of the same kind, [illegible] are found in the tips of the auri[illegible] ventricles, may suffice to correct the [illegible]pression.

It is with these globular vegetations [illegible] as with the long leathery growths a[illegible] described; they all alike grow rapidly, [illegible] as they grow they soften. And thoug[illegible] more variable shape of the filamen[illegible] growths does not always allow us to [illegible]ceive that they have ruptured or been [illegible] as readily as in the case of the g[illegible] vegetations, yet attentive observatio[illegible] often find the proofs of such an occurrence.*

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* Laennec quotes a case from Cruv[illegible] one of these globular vegetations had [illegible] been detached from its situation, and [illegible] down the stream, as far as the pulmonar[illegible] where it had caught. The growth i[illegible] stance had undergone partial earthy [illegible]tion. (Aus. Méd. iii. p. 265.)

The more ordinary course of events is, [illegible] stated, for the growth to be broken down [illegible] component particles to be mixed with the [illegible]lating fluid. The whole subject of capillar[illegible]bitis—the changes to which these par[illegible] thought to give rise—has been so ably con[illegible] by Rokitansky, that any remarks of mi[illegible] anatomy and pathology of these morbi[illegible]ances would be superfluous. Referrin[illegible] work (Path. Anat. Band i. S. 243: Ban[illegible] 680, &c.) for such information, I would b[illegible] subjoin an analysis of twenty-seven obser[illegible] of this disease which have occurred to m[illegible] trating its connection with valvular dise[illegible] the heart.

Although these growths are found [illegible] where the valves of the heart are quite [illegible] yet there is certainly a very close [illegible] coincidence between them and valvular [illegible] especially what has been described as [illegible] second form. For of twenty-seven cases [illegible] these growths were observed, nine had [illegible] of the valves of this form, and two had large[illegible] globular vegetations either on the valves [illegible] the muscular walls of the cavities of the hea[illegible] Four more had simple extreme atheroma [illegible] valves without lesion of the surface. In one [illegible] the heart could not be examined after death. [illegible] the remaining eleven the valves were either [illegible] healthy, or the amount of disease was [illegible] slight. But one of these had little [illegible] tufts, growing from the interior of the [illegible] aorta, and six of them had ulceration, [illegible] specific, of internal organs. One was a [illegible] healthy man killed by a fall.

Allowing largely for errors of observa[illegible] there are two facts which come out most [illegible]nently from this analysis:—First, the co[illegible] of this peculiar morbid appearance wi[illegible] second form of valvular disease; and, second[illegible] the want of any connection between ca[illegible] phlebitis and tubercular deposition,—[illegible]

The analogy between these two morbid appearances is indeed very close. The first stage in both of them is nearly the same, consisting in the growth of a small tubercle, filamentous or globular, as the case may be, of a moderately firm consistency, with a smooth white surface, springing, as far as concerns us on the present occasion, from the edge of the valves. Here the two diverge. The filaments go on to become long leathery tails; while the globular tubercles assume the form of little buttons with contracted bases. There are certain obvious mechanical considerations which go some way to explain the much larger size to which the long filaments may attain, as compared with the ordinary dimensions of the globular vegetations; but the cause which originally determined the difference of form has doubtless the largest share in influencing the mode of succession of the further changes.

For though their elongated form may indeed protect the growths which affect this peculiar shape, yet they have an additional protection in their firmer internal texture, in which, from whatever cause, the softening appears not to advance as rapidly as in the rounder masses. We may occasionally find quite long filamentous growths displaying no evidence of laceration, while the results of mechanical injury constitute one of the most striking features of the globular vegetations on the valves. On the valves: for as we have seen, growths of the same nature, when occupying in comparative quiet the apex of a ventricle or auricle, attain a large size. We need all this to show that these two kinds of growths are not identical: of their close analogy there is no room to doubt.

The fibrinous patches which may sometimes be seen overlaying the left ventricle, as it leads up into the aorta, have already been noticed, and their origin connected with the first form of valvular disease. They have their analogues in the form under consideration, in the papillary growths which are found clustering in patches in the left auricle. These have been compared to the papillæ inside a sheep's mouth, to which, indeed, their resemblance is tolerably exact. Of five cases where these papillary growths were observed, four had leathery accretions on the valves. The same coincidence was noticed in one of Laennec's cases.* Further, four of these cases had granular disease of the kidney; in the fifth there was no opportunity of ascertaining this point.

It has already been shown that the immediate consequences of endocarditis—those, namely, from which we infer its recent existence, are less to be dreaded than those which may more remotely arise from it. The same may be said generally of the morbid changes belonging to the second form of valvular disease. But, there the changes were to be traced in the valves apart from the growth; here the subsequent changes have a closer connection with the morbid product originally characterizing the disease. Perhaps the statement that the valves in the one case, and the growths themselves in the other, are the seat respectively of the secondary consequences most to be dreaded, would not be made clearer by being qualified so as to meet every case. But, speaking generally, and more particularly with regard to the extreme cases, we may safely adopt this expression of the difference of the seat of the changes which lead to disorganization of the heart in the two forms respectively.

A FATAL EPIZOOTIC AMONG POULTRY IN FRANCE.

The *Journal de la Nievre* states that in the cantons of *Sancoins, de Nerondes*, and *de la Guerche*, an epidemic illness has prevailed, which the peasants have named *cholera des volailles*. It attacks the poultry, and frequently carries them off in an hour. In some farm-houses the entire stock has died. The disease exhibits no premonitory symptoms, its effects being as rapid and unexpected as those of cholera. The fowls seem to die suddenly on the perch, or when laying their eggs. It has been observed that their flesh turns black and putrid in two days after death. It is also a remarkable fact that the eggs laid by fowls that have died from this disease putrefy in a few days.—*L'Union Médicale*, Avril 1er, 1851. X

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this last result appears rather in arranging the cases for analysis, than in the analysis itself. The almost uniform absence of tubercles from all the other organs in each case shows that, whatever ground for error there may be in other particulars, there is very little real danger of confounding capillary phlebitis with tubercle. This fact quite agrees with the observations of the extreme rarity of the coincidence of phthisis with valvular disease; though the form of valvular disease which coincides with capillary phlebitis is of the two the more compatible with the tubercular diathesis.

In the twenty-seven cases at present under examination, this morbid appearance was found in the spleen eighteen, kidneys eleven, lungs five, and brain three times. It is worth consideration how many of the cases of softening of the brain which accompany extreme valvular disease of the heart may be referable to this cause. In the muscular substance of the heart I have only met with one, and that a very equivocal instance of capillary phlebitis.

* Aus. Méd. iii. p. 337.

Original Communications.

ON

NARCOTISM BY THE INHALATION OF VAPOURS,

By John Snow, M.D.

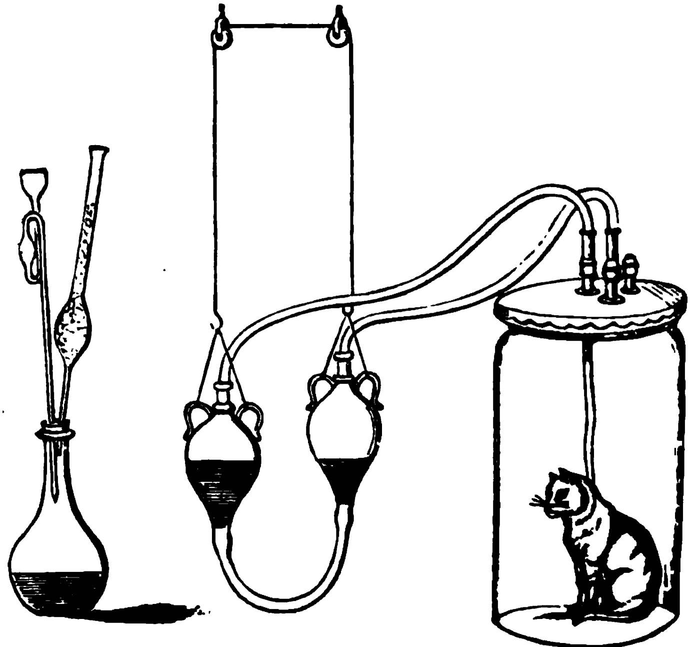
[Continued from last vol. p. 754.]

Part XVI.

Experiments to determine the amount of Carbonic Acid Gas excreted under the influence of Chloroform—of Ether.—Diminution of Carbonic Acid caused by Alcohol.—Chloroform, Ether, &c., produce their effects by diminishing Oxidation in the system, without necessarily *combining with oxygen themselves.—Proofs of this view.*

In order to ascertain with accuracy the quantity of carbonic acid gas excreted by animals whilst under the influence of chloroform and ether, I employ some apparatus similar to part of that used by MM. V. Regnault and J. Reiset in their chemical researches on the respiration of animals.*

The accompanying engraving will assist to give a correct idea of the apparatus. The animal to be expe mented on having been placed in a la glass jar, the latter is covered wi lid, padded on its under surface with India rubber cushion, to make it accurately. In this lid there are thr apertures. One of them serves for troducing the chloroform or ether, can be closed by a brass mount; others are connected, by means of of vulcanized India rubber, to a po apparatus, consisting of two glas sels with an opening at each end, nected together at the lower par means of another elastic tube. solution of potash employed is di with sufficient pure water to make one of the vessels; and as these are made to move up and down du the experiment, by means of a passing over pullies, the solution potassa is moved alternately from vessel to the other, its place bein cupied by air from the jar, wh returned back again as the vess scends and becomes again filled the liquid. As the tube from the potash vessels is continuous one which descends nearly to the b of the jar containing the anim jected to experiment, air is altern withdrawn and returned at its



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* Annales de Chimie et de Physique, 1849.

and lower part. A constant circulation of air thus takes place, and the carbonic acid gas becomes absorbed soon after it is given off from the lungs.

To determine the quantity of carbonic acid gas taken up by the solution of potassa, it is first put into a flask and boiled, to expel the chloroform or ether it may have absorbed. The flask is afterwards closed with a stopper, perforated for the admission of a safety tube, and a tube containing chloride of calcium.* The whole is then carefully weighed, together with a bottle containing rather more dilute sulphuric acid than is sufficient to saturate the solution of potassa. The acid is introduced gradually through the safety tube, and the contents of the flask heated to the boiling point, in order to expel the whole of the carbonic acid gas from the liquid. By making aspiration through the chloride of calcium tube, the whole of the carbonic acid is removed from the flask, its place becoming occupied by fresh atmospheric air, which enters through the other tube. When the contents of the flask have cooled to the temperature at which the previous weighing took place, the apparatus is again carefully weighed, and the loss of weight shows the quantity of dry carbonic gas expelled. On deducting from this the small quantity of carbonic acid known to have been contained in the solution of potassa employed, the remainder shows the quantity which has been absorbed by it during the experiment.

Exp. 70.—On December 18th, 1850, a rabbit, weighing four pounds, was placed in a jar holding 1,600 cubic inches, and allowed to remain for half an hour, the potash apparatus above described being kept in motion during this time. The rabbit was very quiet during this part of the experiment.

The potash vessels having been emptied and replenished, and the rabbit having been removed for a few minutes for the ventilation of the jar, it was put in again, and twenty-five grains of chloroform were introduced through the aperture in the cover. The vessels containing the solution of potassa were kept moving up and down, as before. The rabbit moved about briskly on the introduction of the chloroform, and continued to do so for six minutes, after which it lay apparently asleep, but started spontaneously, now and then, as if in a disturbed dream. On its removal it showed signs of sensibility when touched, but appeared quite unconscious.

After being out of the jar for five minutes, and the jar having been well ventilated in the meantime, the rabbit was put in again, in much the same state as when removed. It remained for half an hour, sleeping the greater part of the time, but had almost recovered from the effects of the chloroform on its removal. The potash apparatus was in action as before.

The solution of potassa employed in the different parts of the experiment was analysed, with the precautions before described, and gave the following results:—

The quantity of carbonic acid gas absorbed in the first part of the experiment, before the exhibitión of chloroform, was 6·80 grains. In the second part of the experiment, during the inhalation of chloroform, 2·78 grains were absorbed; and 2·85 grains after the inhalation, whilst the rabbit was gradually recovering.

Exp. 71.—On December 21st, 1850, a young dog, weighing eight pounds, was placed in the jar holding 1,600 cubic inches, and allowed to remain half an hour, the potash apparatus being kept moving, as in the previous experiment. The dog whined and turned round occasionally, but did not make much muscular effort.

The dog having been removed for a few minutes in order to ventilate the jar, was put in again, and twenty-five minims (thirty six grains) of chloroform were introduced. The potash apparatus, which had been replenished, was moved up and down as before. On the introduction of the chloroform the dog made violent efforts to escape, and his muscular exertions continued, when they were no longer directed by consciousness, till he sank down apparently insensible at the end of about eight minutes. The head and limbs, however, continued to be moved occasionally during the remainder of the half hour. On his removal from the jar the dog yelped, but his muscles were quite flaccid, and he lay for a time where he was placed, and afterwards recovered gradually.

The solution of potassa employed in the half hour just before the chloroform, was found to have absorbed 10·1 grains of carbonic acid gas, whilst that employed for the same period with the chloroform had absorbed only 4·8 grains.

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* See figure at the left side of the engraving.

EXP. 72.—On January 19, 1851, a cat about half-grown was placed in a jar holding 920 cubic inches, and allowed to remain for half an hour whilst the potash apparatus was in operation, as in the other experiments. The cat made occasional efforts to get out of the jar.

A few minutes after its removal from the jar, the cat was put in again, and twenty grains of chloroform were introduced through the aperture in the cover. The potash apparatus, having been replenished, was kept in motion, as before. On the introduction of the chloroform the cat made violent efforts to get out. In two or three minutes it became unconscious; but it continued to move involuntarily until five minutes had elapsed, when it sank down in a state of insensibility. During the remaining twenty-five minutes of the experiment the breathing was quick, and much deeper than natural. The cat was quite insensible to pricking and pinching on its removal.

The solution of potassa employed just before the chloroform was given absorbed 5·7 grains of carbonic acid gas; whilst that used during the time that the chloroform was exhibited, absorbed but 2·0 grains.

EXP. 73.—On Feb. 17, 1851, a cat weighing four pounds and a half was placed in the jar holding 1600 cubic inches, and kept there for half an hour. It sat very quietly the whole time. A few minutes afterwards it was put into the same jar again, and eighteen grains of chloroform were introduced by the aperture in the lid. The cat moved about somewhat during the first seven or eight minutes, but it lay sleeping the remainder of the half-hour: it was not insensible on its removal, but inclined to sleep when not disturbed. The cat, having been removed for a few minutes to ventilate the jar, was put in again, and twenty-seven grains of chloroform were introduced. The cat had in a great measure recovered from the effects of the former dose of chloroform during its removal: it attempted to escape on the fresh chloroform being introduced, but soon became quiet and apparently insensible. At the end of half an hour the solution of potassa was changed, without removing the animal from the jar. Chloroform was now added by ten minims at a time, about every ten minutes, till the cat was killed. It died very gradually at the end of three-quarters of an hour. The breathing became very feeble, and intermitted for long intervals before death took place, and there were no gaspings.

The potash apparatus was in operation during the experiment, and the analysis of the solution of potass gave the following results:—

Carbonic acid gas excreted in half an hour, just before the chloroform 7·7 grains.

In half an hour, with eighteen grains of chloroform in the jar, 5·7 grains.

In the same time, with twenty-seven grains of chloroform, 4·9 grains.

During the last three-quarters of an hour, 7·1 grains, which is at the rate 4·7 grains for half an hour.

It will be observed that the quantity of carbonic acid gas excreted under the influence of chloroform was considerably less in all the above experiments than it had been just before; and the last experiment, it will be remarked that the excretion of carbonic acid diminishing as the narcotism increased, whilst in Exp. 70 it increased somewhat during the last stage of the experiment, whilst the effects of the chloroform were subsiding.

It would not be easy to make experiments for ascertaining the amount of carbonic acid gas excreted by patients whilst under the influence chloroform; and my inquiries on point in the human subject have confined to such experiments as I conduct on myself whilst affected by the vapour.

In two experiments related in last part of this series of papers which oxygen gas was breathed to fro over solution of potassa, whilst the partial influence of chloroform amount of carbonic acid absorbed the potash was determined in the manner described above, for comparison with that absorbed in experiments ducted in a similar manner a little before the chloroform was inhaled. The quantity of carbonic acid diminished by the chloroform, as shown in the following table:—In Exp. 67, for instance, 42 grains of carbonic acid gas were absorbed by the potash whilst breathing oxygen for ten minutes before the chloroform had been inhaled, and only 33 grains during the same period, just after the inhalation of

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* MEDICAL GAZETTE, last vol. p. 731.

roform. A similar diminution of the amount of carbonic acid took place in Exp. 68.

In the subsequent experiments enumerated in the table, the air was inspired by the nostrils and expired by the mouth, through a glass tube which conveyed it through a solution of potassa placed in two Woulfe's bottles. The experiments were made at ten or eleven o'clock in the evening, after sitting quietly for two or three hours. The breath was passed through the solution of potassa before inhaling, and then through a similar solution, after inhaling as much chloroform, for three or four minutes, as could be taken without causing unconsciousness. An inspiration of chloroform was also taken, now and then, during the remainder of the experiment, to prevent the effects of the vapour from altogether subsiding.

No. of Exp.	Date of Exp.	Duration of Exp.		Carbonic Acid.		Carb. Acid per min.	
		Before Chlorm.	With Chlorm.	Before Chlorm.	With Chlorm.	Before Chlorm.	With Chlorm.
67	Sep. 3, 1850.	10 min.	10 min.	42·0 grs.	33·0 grs.	4·20 grs.	3·30 grs.
68	Sep. 19, „	15 „	15 „	73·0 „	46·0 „	4·86 „	3·06 „
74	Oct. 28, „	10 „	10 „	23·0 „	20·5 „	23.0 „	2·05 „
75	Oct. 30, „	20 „	20 „	57·0 „	53·0 „	2·85 „	2·65 „
76	Oct. 31, „	15 „	15 „	42·0 „	36·5 „	2·80 „	2·43 „
77	Mar. 18, 1851.	20 „	20 „	43·0 „	37·5 „	2·17 „	1·87 „
Mean quantity of carbonic acid per minute.						3·19 grs.	2·56 grs.

Soon after the introduction of the inhalation of ether, I made some observations on the amount of carbonic acid gas exhaled from the lungs under its influence, by passing the expired air through lime water, when I found the quantity to be diminished.* The following more recent experiments on animals have been attended with a similar result.

Exp. 78.—On Dec. 15, 1850, a rabbit, weighing four pounds, was kept in a jar, of the capacity of 1600 cubic inches, for forty minutes, the potash apparatus, before described, being in motion all the time. The rabbit was perfectly quiet. Soon afterwards, the rabbit was put into the jar again, and forty grains of ether were introduced, which did not cause insensibility, but only inebriation. The rabbit remained in a position between sitting and lying, being able to hold its head up. It was removed at the end of forty minutes.

Twenty minutes after its removal, when the effects of the ether had almost altogether gone off, the rabbit was a third time placed in the jar, for the space of forty minutes.

The analysis of the potash employed in the first part of the experiment, before the ether, yielded 12·6 grains of carbonic acid The carbonic acid given off during the inhalation of ether was not correctly determined, owing to an accident; but that employed in the third part of the experiments yielded 10·8 grains, showing a notable diminution, although the effects of the ether on the animal had almost ceased to be perceptible.

Exp. 79.—In March, 1851, two pigeons were placed for twenty minutes in a jar holding 670 cubic inches. They stood still the whole time. A few minutes after their removal they were put into the jar again, and sixty grains of ether were introduced, at short intervals, by a few grains at a time. The pigeons became gradually insensible, and at the end of eight minutes were lying on the side. They showed no signs of sensibility when removed at the end of twenty minutes, but lay where they were placed. After being out for three minutes, they were put into the jar again, as they were beginning to evince signs of returning sensibility. In ten minutes more they were able to stand, but they were not fully recovered, when they were removed, at the end of twenty minutes.

The potash apparatus was in action,

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* See Report of Westminster Med. Soc. in Med. Gaz., Feb. 26, 1847.

as in the previous experiments. The solution of potassa employed in the first part of the experiment absorbed 6·1 grains of carbonic acid; that employed in the second part absorbed 3·6 grains; and that employed in the last part of the experiment, whilst the effects of the ether were subsiding, absorbed 4·4 grains.

The late Dr. Prout discovered, nearly forty years ago, that fermented and spirituous liquors diminish the amount of carbonic acid given off from the lungs. He summed up the result of his experiments on this point in the following words:—"Alcohol, in every state, and in every quantity, uniformly lessens, in a greater or less degree, the quantity of carbonic acid gas elicited, according to the quantity and circumstances under which it is taken."* Dr. Prout's experiments were confined to the proportion of carbonic acid gas in the expired air. A recent German author has extended his inquiries to the quantity exhaled in a given time, and he finds that both the proportions in the expired air and the quantity excreted per minute are diminished during the action of alcohol. He also finds that the total amount of every one of the constituents of the urine is lessened, under the same circumstances.†

The diminution of the amount of carbonic acid formed in the system under the influence of chloroform, ether, and alcohol, taken in conjunction with a circumstance shown in a former paper, that the chloroform and ether are exhaled unchanged from the blood, assist to prove a view of their modus operandi which I suggested with respect to ether, early in 1847.‡ That view may be stated as follows.

Chloroform, ether, and similar substances, when present in the blood in certain quantities, have the effect of limiting those combinations between the oxygen of the arterial blood and the tissues of the body which are essential to sensation, volition, and, in short, all the animal functions. The substances modify, and in larger quantities arrest, the animal functions, in the same way, and by the same power, that they mo and arrest combustion, the slow ox tion of phosphorus, and other kind oxidation unconnected with the liv body, when they are mixed in cert quantities with the atmospheric air.

This explanation is probably ap cable to the action of all narc whatever, but is here applied only the class considered in these pape namely, the volatile narcotic substan not containing nitrogen, or those s stances whose power was found to b the inverse ratio of their solubility water and the serum of the blood.

The circumstances which appear my mind fully to establish the ab stated theory of the operation of ch roform and similar bodies, are enu rated in the following propositions:—

1. Sensation, motion, thought, indeed all the strictly animal functio are as closely connected with cert processes of oxidation going on in body, as the light and heat of flame connected with the oxidation of burning materials.

2. The diminution of the amou carbonic acid gas excreted by the l under the influence of chloroform, et and alcohol, shows that the proce oxidation going on in the body lessened, for the amount of carb acid given off has a pretty close rela to the quantity of oyxgen consumed

3. The diminution of temperatur animals under the influence of chl form and ether, alluded to in an e part of these papers, also shows t the proceesses of oxidation which t place in the body are diminished. the development of animal hea been shown, by Edwards and other have a constant relation to the quan of oxygen which is consumed in r ration.

4. The venous blood in pa under the influence of chloroform ether is less dark in colour than in normal state; indicating that t changes in the blood which take p in the systemic capillary circulatio diminished.

5. The lessened quantity of all constituents of the urine, observed Böcker, from the effects of alcohol shows that oxidation is diminished

6. The diminished oxidation is owing to the combination of the narc substance with the oxygen of the arte blood; for in the first place, the chl

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[*] Ann. Phil. vol. ii. p. 336.

[†] Beiträge zur Heilkunde nach eigenen Untersuchungen von Friedr. Wilh. Böcker. Crefeld, 1849. I am indebted to the kindness of Dr. Bence Jones for the knowledge of this work.

[‡] See MED. GAZ. vol. xxxix. p. 383.

form and ether, as well as part of the alcohol, have been shown to escape unaltered in the breath; in the second place, the quantity of material, in the case of chloroform, capable of combining with oxygen, is altogether insufficient so to appropriate the oxygen; and in the third place, to increase the amount of oxygen in the respired air does not prevent the action of the narcotics.

7. The different parts of the nervous system lose their power under the influence of the narcotics we are considering, in the same order as in asphyxia—the privation of oxygen, as was observed by M. Flourens with respect to ether, in 1847.*

8. The muscular irritability, which continues for a short time after death, depends on the action of a little oxygen still remaining in the system; and this irritability can be at once extinguished by chloroform, ether, or alcohol, in proportion rather larger than is necessary to cause death. When the muscular irritability is thus extinguished, post-mortem rigidity comes on almost immediately, and lasts for an unusually long time, if the narcotic employed is prevented from evaporating.

9. The vapours of volatile narcotic substances have the property, when mixed with the air, of retarding, and, in larger quantity, of arresting, that form of oxidation which constitutes ordinary combustion; and their power in preventing combustion generally bears a direct relation to their narcotic strength.

10. Many of these same vapours have the property of preventing the slow oxidation of phosphorus, which renders it luminous in the dark, as was discovered by Prof. Graham; and their effects, in this respect, have a general relation to their narcotic power.

11. The putrefaction of animal substances consists, on its commencement at least, of a process of oxidation; and the numerous class of substances we are considering all have the property of preventing putrefaction, their antiseptic power having generally a direct relation to their narcotic properties.

12. The reduction of the temperature of the body, by exposure to cold, diminishes the consumption of oxygen, and causes symptoms very nearly resembling the effects of a narcotic.

The second and sixth of the above propositions have already been fully considered, and the remainder will receive further consideration in my next paper.

[To be continued.]

SOME REMARKS ON THE

CAUSES OF AMPUTATION OF FŒTAL LIMBS OCCURRING WITHIN THE UTERUS.

By W. H. Gatty, M.R.C.S.

(*Read before the Abernethian Society, Nov. 28, 1850.*)

The pathology of intra-uterine amputation was until the last few years so completely enveloped in darkness, that, although these imperfections have been observed from time immemorial, still so little has been known of the manner in which they were produced, that many persons, among whom was the great Haller, entertained the opinion that they were always the result of imperfect development, alleging, in support of this opinion, that there was not one case recorded in which the "amputated hand or other limb had been found separate from the rest of the body, in the membranes of the fœtus:" whilst others, amongst whom were Richerand and Desormeaux, regarded them as a pathological change in a perfectly developed body, the result of inflammation and gangrene. It was not, indeed, until the following case occurred to Dr. Montgomery of Dublin, that the true nature of this change was found out; it was a case of abortion occurring at the fifth month. The following is his description of the fœtus:—"The head was misshapen and monstrous, the brain towering upwards like a helmet over the head, and covered only by integument; but the circumstance deserving of especial notice was the appearance of complete ligaments surrounding the limb; and on examining them closely I found that they consisted of distinct shreds, passing from both hands downwards to the legs: at one end they had formed a complete ligature round the middle of each hand, causing a distinct depression where it passed, the part of the hand below it being almost completely undeveloped: from the hands these cords descended to the legs, which were crossed, and, surrounding them, just above the ankles compressed them so tightly that fully two-thirds of their whole thicknes were thereby divided, *without, however, causing any breach in the skin ;* nor was there the slightest appearance of disease, or even discolouration of any of the parts; but the feet were, like the hands, imperfectly developed and misshapen."

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* Gazette des Hôpitaux, 20 Mars, 1847.

Since that time many more cases of a similar character have been observed,—some of them where the amputations have been complete, others where they have only been partial; but most of them tending to confirm the opinion of Dr. Montgomery, that they are effected by the application of a ligature round the limb, which by its pressure gradually causes the division. As examples of the first class of cases, or those in which the amputation had been completed, I will adduce the following:—Schwabe mentions a man who had only a small stump for a left arm, and lived twenty-eight years; also a man who had only short stumps for lower extremities, but was married, and had healthy and well-formed children. Nettekovan mentions a girl, three weeks old, with deficiency of the lower two-thirds of the right fore-arm; and a child, twelve years old, with defect of the lower half of the left fore-arm. There is also a preparation, in the Museum of St. Bartholomew's Hospital, of a fœtus born at the ninth month, in which spontaneous amputation of both legs a little below the knee-joint has taken place. The extremity of each stump is cicatrized and contracted to a point: it is not known what became of the separated legs. But that which has the most practical bearing, is the case related by Smith, in the Lancet for 1838. That gentleman being called to a case of excessive hæmorrhage, where it was necessary to perform the operation of turning, was surprised on introducing his hand into the cavity of the uterus at not being able to lay hold of its legs: after some difficulty, however, he succeeded in catching hold of the thighs, and thus extracted the child; when on bringing it into view he found both legs amputated, immediately below the knee, and the stumps neatly healed.

There was quite lately, in St. Bartholomew's Hospital, a case beautifully illustrating that class where the constriction does not go on to complete amputation of the limb: I refer to a boy, two and a half years of age, who was admitted on account of a slight injury, the subject of congenital varus of both feet. And besides these malformations of the feet, the right thigh presented an extraordinary appearance, for at the lower part, just above the condyle of the femur, was a constriction of the limb, extending quite down to the bone, on the anterior aspect; the extensor muscles apparently being completely divided. Posteriorly the hamstring tendons, on both sides, could be felt quite whole, with the artery beating naturally in the popliteal space. The integument dipped down into the fissure in the subcutaneous tissues, and at the bottom of the depression were two lines running round the limb, and having the appearance of marks made by a tight cord: with this exception, the integument of the whole limb looked perfectly healthy and natural. There was no perceptible fissure in the bone, and the knee-joint was quite perfect in its movements, the patella also being moveable. The boy was capable of both standing and walking, but did not bend the knee in progression, neither was he able to raise the leg over any obstacle that stood much above the level of the floor. In addition to these other deformities three of the fingers on one hand and one on the other, were imperfectly developed; not, as was first supposed, wanting altogether. There was no visible imperfection in any other organ, nor was there anything in his countenance or complexion to give rise to the suspicion that there was any imperfect development of the heart. Whilst the child was in the hospital he was attacked with erysipelas in the deformed leg, extending from the toes up to the constriction in the thigh, where it ceased quite suddenly. This attack, however, produced but very little constitutional disturbance, and passed off in a few days, leaving the limb as well as before. On mentioning to the mother that such an attack had occurred, she told the nurse that similar ones often happened, coming on generally about once a month.

Among the many pathological points arising in the consideration of these cases, the following are, I think, some of the most interesting for investigation.

viz.:—What are the amputating agents? In what manner are they produced? How do they act? and what future effect do they have upon the limb in those cases where the amputation has only been partial?

In reference to the first of these questions, Dr. Montgomery believes the amputating agents to be, almost invariably, shreds of organized lymph, similar to that effused under the influence of inflammatory action in the serous membrane, although he declares his inability to account for their production; the amputations being effected by the limbs becoming encircled in these bands as in the case related by him already alluded to. Dr. Simpson, of Edinburgh, also holds the same opinion, and, moreover, considers them to be the result of some kind of inflammation of the integuments of the fœtus. Prof. Gurlt, of Berlin, likewise agrees with Dr. Montgomery, that these amputations are mostly produced by threads, but instead of considering them as shreds of lymph, he "believes that both the formation of these shreds, and the amputations of the limbs, which are most probably in all cases produced by them, may be explained by the history of the formation of the fœtus;" going on to say, "I look upon these shreds as prolongations of the egg membrane from which the fœtus grows, whether this membrane be taken as the navel, bladder, or the amnion;" in support of which opinion he mentions the case of a malformed foot, which had been adherent, at different points, to the surface of the amnion; some of these adhesions being like threads, and from two to three inches in length. These prolongations, he thinks, are afterwards, by the constant motions of the fœtus, twisted into slight but firm cords, in which the limbs of the child get entangled. Against this opinion of Gurlt, however, may be advanced the fact, that, in many cases—indeed in most—there is no connexion between the constricting band and the amnion, the cord being attached by either end to some part of the body.*

As another cause of constriction, the umbilical cord must be mentioned; for although from its elasticity and mobility it would scarcely be thought capable of producing so great an effect, still that it has such power the following examples will abundantly shew. Two cases are related by Montgomery, in which the umbilical cord was coiled, in one round the left leg, in the other round the left thigh-joint, above the knee; and in both had deeply indented the limb. One by Schwabe, of a child born at the sixth month, in which the foot appeared in great part separated, just above the ankle, by the umiblical cord tied round it with a knot. Buchanan also relates a case of a three or four months' fœtus, in which the umbilical cord encircled the neck, and the right knee: the cord itself was atrophied, and at the constricted part of the knee there was only skin and bone remaining. F. C. Fourtual mentions a seven months' fœtus, in which the cord, thin, long, and hard, encircled the right upper arm near the elbow, four times, so tightly that though the skin was uninjured yet the muscular tissue appeared wholly lost. And a similar instance is related by Ninon, of a fœtus whose thigh was so constricted by the cord just above the knee that the soft parts were divided down to the bone.

In all these cases of constriction by the umbilical cord the amputation has only been partial, and I do not know of any on record where there has been complete separation of a limb from this source, although no doubt, if it were continued long enough, such would be the result. But I doubt very much whether it could be so continued, for it would most probably give rise to the death or premature expulsion of the fœtus, as in the previous cases; the cause of which I believe to be the following:—The umbilical cord, whilst pressing on the soft tissues of the limb and causing their absorption, does not suffer a sufficiently great amount of pressure itself materially to affect the blood through it; but, when all the soft parts intervening between it and the bone have become absorbed, the resistance afforded by that body, on account of its greater hardness, begins to produce counter-pressure upon the cord, thereby stopping the circulation, occasioning the death of the fœtus, and consequently its premature expulsion.

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* Since writing the above I have met with the following case:—A child was lately brought to St. Bartholomew's Hospital, in both of whose hands some of the fingers were deficient, and some marked with constrictions. On enquiry, I ascertained from the mother that the deformity was congenital, and that bands of membrane were twisted round its hands at the time of birth. She further told me that it was her first child; that six weeks previous to her pregnancy she had had a miscarriage, followed by a constant discharge of quantities of false membrane per vaginam, which ceased on impregnation, though she suffered from occasional pain for some time afterwards. This is another proof of the assertion, that these deformities are generally caused by shreds of membrane, and in this case, most probably, the result of some inflammatory action on the uterus itself.

But I do not suppose that death must be a necessary consequence of such constriction, for should it be late in the period of intra-uterine life before the limb becomes entangled in the convolutions of the cord, parturition would most probably occur ere the pressure had gone on to such an extent as to cause the death of the child, although long enough to have caused the removal of the soft parts. And like circumstances, I believe, gave rise to the deep indentation in the thigh of the boy recently in St. Bartholomew's Hospital, already alluded to.

But besides the two preceding sources of division of a limb, there is yet another probable, I may almost say certain one, of which the following case may, I think, be taken as an example: it is related by Dr. Edward Martin, of Jena:—

A boy was born of healthy parents, in 1849, without his left arm; in its place there was a stump, which appeared to be somewhat less than half of the upper arm, and of which the lower end was a brownish red and moist, but not suppurating or bleeding wound, with the bone a little projecting. Shortly after birth, the wound, dressed with cerate, completely healed. The child lived and grew healthily. The stump was moveable, and its end was puckered in, and had a reddish small elevation projecting from it. The separated part of the arm of this child came away with the placenta; it was about three or four inches long, and consisted of the lower half of the upper arm, with the forearm and hand. The skin was shrivelled and brownish grey, the fingers were somewhat dried at their tips, the nails were well formed. Blood was effused in the subcutaneous tissue of the upper and forearm, but none in that of the hand; all the joints were perfect, and the tissues appear to have been well nourished. At the part where the amputation had been made, the integuments were drawn in and united with the subjacent parts, and from the middle of this end the humerus projected about an inch, and had a dentated broken surface. The mother of this child, eight weeks before her delivery had fallen from a considerable height; she was rendered unconscious by the injury she received, and, for some days after, had bloody discharges from the vagina, and, till she was delivered, had constant pains of the abdomen. But her general health remained good, and her parturition was natural. The true source of this separation,—for the term amputation is here inapplicable,—I conceive to be a fracture, probably compound, of the humerus, occurring from the fall which the mother had eight weeks previously. That such fractures from external violence to the mother happen, is certain, and also that they may and do occur spontaneously in the uterus, and from muscular action of the fœtus itself, cases exemplifying all these species being given by Dr. Montgomery, in his article on the fœtus in the Cyclopædia of Anatomy. It has been a matter of doubt whether separation of a limb from this accident ever does occur, many people believing that it does not. As I have before said, I incline to the opinion that it can; the ulcerated extremity of the stump in the foregoing case, showing it to have been quite of recent formation, and the rough and jagged appearance of the end of the separated portion of humerus, decidedly proving it not to have been divided by any mechanical means, such as ligature, as under those circumstances it would have been smooth and even: but the difficulty to solve is, how the soft parts become divided. In the article on the fœtus just now referred to, a case is mentioned where the mother having fallen, caused a fracture in the leg of the child, which was born with the fracture, complicated with wound of the soft parts; gangrene supervened and detached entirely the injured limb. Here we have gangrene and separation after birth, resulting from injuries received in the uterus. Now, in the former case did separation occur within the uterus from the same cause or not? The appearance of the separated part would seem to indicate that it did not, there being no more alteration in it than could be very well accounted for by its lying dead for some weeks in the uterus, whilst it certainly did not show the disorganized condition of a slough. If, then, separation did not occur from this cause, the question naturally arises how could it take place? And, in answer, I will relate a case from Dr. Simpson's paper in the Dublin Medical Journal, which, I think, will illustrate one manner, though I do not say *the* manner, in which it might have happened. A boy, who was wanting both hands and arms, had growing from the right shoulder one finger, containing four phalanges, and from the left two shorter ones, placed vertically one over the other; the inferior of these two presented on its surface a great and sudden constriction; this finger had been fractured some years previously, and had since been gradually becoming atrophied at the fractured part, to such a degree, that if it had continued in the same course much longer it would have fallen off. This species of atrophy might truly be called disjunctive atrophy, and although in Dr. Simpson's case it was of a very chronic description, still if it took on a more active form it might in a very short space of time cause the removal of the soft parts in the arm of a fœtus: but this is only a supposition as to what might happen, I do not say that it ever does so occur.

We now come to the consideration of the manner in which these constricting bands act to produce amputation; and here I would remark, we shall find some most striking differences between their action, and that of ligatures artificially applied after birth to any part of the body. When such an application is made use of by the surgeon for the removal of various kinds of tumors, separation is produced by the stoppage of the circulation in the part from the tightness of the ligature; this causes its death and disorganization, ulceration of the living tissues nearest the dead mass follows, commencing at the circumference and extending towards the centre, the skin in this instance being the first to give way. On the other hand, in several of the cases of intrauterine amputation I have related, it is expressly stated that the skin was the last part, or nearly so, affected; absorption of all the subcutaneous tissues down to the bone being produced before it showed the least symptom of compression, beyond following the indentation of the limb. I cannot, unfortunately, find one case on record in which the constriction has extended into the bones without the amputation being complete, nor is there one where the integuments have begun to ulcerate, so that it is impossible to say which of these two hold out the longest against the constricting force. Moreover, it is evident that the separation is not the result of gangrene, for in all those cases where the separated parts have been found, they have always seemed healthy, not having suffered any discolouration or disorganization, and at the point of division being either partially or entirely healed over; though this appearance of being healed, I should think, is more probably attributable to the fact, that the skin did not ulcerate or separate until even the bone itself had been divided, rather than to any active process of repair having taken place in the amputated extremity.

Concerning the effects produced in the part of the limb situated below the seat of constriction, in those cases where the amputation has only been partial, I cannot find anywhere that they have been particularly noticed, those who relate them having been content with observing that they were nourished. There is no doubt about their being nourished in children who live, and there does not generally seem to have been any hindrances to their development and growth, although Dr. Simpson certainly mentions one in which the constricted arm was a little shorter than the other; but the greater number of these monstrosities have been aborted. But, when considering the subject of the nutrition of these limbs, we ought to take into account not only their size and arterial appearance, but also whether usually they are more or less subject to disease than the rest of the body, and whether the diseases under which they suffer are such as are generally thought to depend upon deficiency of vital power. As I have before said, I know of no such observation having been made, except in the case of the boy in St. Bartholomew's Hospital, who by his mother's account is subject to frequent attacks of erysipelas in the malformed leg, which is always defined by the constriction of the thigh; with this exception that leg appears as sound and well nourished as the other, the liability to erysipelas being perhaps merely a casual coincidence; but as in the present state of medical knowledge erysipelas is thought to belong to that class of diseases dependent on debility. I am inclined to think that its frequent occurrence in this boy's leg is a sign of its greater weakness; although before one could come to any certain conclusion on the subject, a much more exextended observation of similar cases would be necessary,—a matter, I fear, of some little difficulty, as there are but about half a dozen living cases of constriction on record, and I think only one or two besides this where it occurred high up in the limb.

I have stated that by many of the older observers these deformities were supposed to be the result of imperfect development, and it would seem that these suppositions were not altogether without foundation, for in many of the cases where intra-uterine amputation has taken place, malformation of some other part of the body has coexisted, as in the boy lately in the hospital, the deficiency of whose fingers was of such a nature as only to have been caused by imperfect development, all the component parts of the fingers being present, but in so undeveloped a degree that they might easily have been, and indeed were at first, mistaken for the stumps of the natural fingers, cut off at the first phalanges; a state of things which was shown not really to be the case, from the fact that at the extremity of each might be seen rudimentary nails—unless indeed there had been amputation and partial reproduction, as in the following cases related by Dr. Simpson in the Monthly Medical Journal, 1848. It occurred in a girl aged 11, who had been born without the left upper extremity from a short way below the elbow-joint. The arm of this side was of the natural size and form, but below the forearm consisted merely of a stump about two inches long. It had all the appearance of having been amputated at about the junction of its upper and middle third, the surface having subsequently healed over in a very perfect manner. No appearance of cicatrization was visible, except over the ends of the bones, where the skin was puckered and drawn in in an umbilical form. Midway between and a little in front of these points, was a raised cutaneous tubercle, divided on the surface into five minute nodules, on two of which small points of nail could be detected. This projection, Dr. Simpson stated various reasons for believing, indicated an effort of nature to replace the lost por limb; he considered it, in fact, a rudimentary hand, and a curious illustration of the power of regeneration of the compound parts in the embryo. He also showed a number of casts of similar cases, in all of which the amputation had been at the same place, and in all some attempts, either more or less, at repair had taken place.

This last remark of Dr. Simpson's leads one to the investigation of what parts of the body are most subject to these amputations and constrictions, and *he* also suggests that the situation in which the membranous threads are found may afford some clue to the diseases which produce them, and the manner of their production. In running over the various cases, it will be seen that the two different sources of constriction,—namely, the shreds of lymph and umbilical cord, have two different situations, where they mostly exert their constricting power, the first being found most frequently about the roots of the fingers and toes, and the middle of the palm of the hand and sole of the foot, gradually diminishing in frequency towards the upper part of the limbs, while, on the contrary, the umbilical cord has a much greater tendency to encircle and constrict those parts of the limbs that are nearest to the body.

One of the principal reasons why in many of these cases, the amputated extremity of the limb has not been found,—in so many, indeed, as to have given rise to the opinion that they were always the result of imperfect development,—depends, I believe, upon this, that the fœtus at the time of the formation of the threads is so small, that the separated portion of limb escapes unnoticed amongst the debris of membranes, &c., at the time of birth. So early, indeed, does the amputation sometimes occur, that even when the separated part has been found it has not at first been recognized.

Dr. Montgomery gives a description of an aborted fœtus which had suffered amputation of one of its legs; the stump of this leg was connected with the ankle of the opposite side by a cord, to the centre of which was attached a small oblong body, that proved on examination to be the amputated foot perfectly formed. The amputation had occurred at a very early period.

This case shows how easily a foot or other member might escape without detection: should gestation of the fœtus be tinued for its full period, the cord- uld most probably have been detached m the stump, either by absorption, the motions of the fœtus. The other ot, also, might have been removed the same cord, so that the child when rn would have presented precisely the me conditions as the fœtus alluded in St. Bartholomew's Hospital Mu- um.

I have now stated at some length the ifferent opinions held concerning the eans by which these various malforma ions are produced; and that they are ffected by such means I have shown y the recital of several cases bearing pon the subject; and I think I am ustified in stating that at the present ime but few medical medical men would refer their origin to any other cause; but with the extra-professional public it is otherwise, and indeed some time ago it was so with the great body of members of the profession. Of the influence which the mind has over the process of generation much has been said, some persons having attributed to it not only a power over the physical, but even over the mental faculties, considering that the transitory state of the minds of the parents at the instant of conception is fully able to account for the predominance of any particular talent or propensity in the offspring. Whether such an influence be ever exerted in relation to the mental qualities, however, has but little to do with the present subject, which relates entirely to the physical malformations that occasionally; occur and on this point the investigation is as difficult as on the other. The vulgar opinion is, that all the various congenital physical defects, such as nævi, blemishes, or unnatural formations, are the result of some strong impulse in the mind ,of the mother, excited either by her imagination, desire, or fear, or indeed by any other faculty or passion that might be sufficiently strong.

But putting aside entirely all the wonderful stories, one may readily believe that the mind has some influence over the nutrition of the fœtus indirectly, though not directly, when we take into consideration the effect all violent or sudden affections or emotions of that organ in the mother have upon her general circulation, and indeed upon all her organic functions, especially when we reflect how much more liable and subject all women are to various nervous affections when pregnant, and how much more likely the uterus is to sympathize with any such disorder when in that state; since we know that, even when unimpregnated, menstruation may be suddenly arrested under similar circumstances.

With the idea, then, that the mind of the mother can influence the nutrition of the fœtus in some degree only, I will conclude the consideration of this subject by expressing the opinion of Dr. Blundell, "That it is contrary to reason, experience, and anatomy, to believe that the strong attention of a mother's mind to a determinate object or event can cause a determinate or specific impression upon the body of her child without any force or violence from without; and that it is equally improbable that, when the imagination is operating, the application of the mother's hand to any part of her own body will cause a disfiguration or specific impression on a corresponding part of the body of the child."

ON ABSCESS OF THE CELLULAR TISSUE.

By John Grantham, F.R.C.S.E.

During the last four or five years I have attended several cases of abscess in the cellular tissue beneath the skin and superficial to the fascia, covering the muscles, which have occurred as the sequelæ of typhoid fever and sub-acute erysipelatous inflammation: such causes, however, may be confounded with secondary abscess, as Mr. Arnott, in the fifteenth volume of the Medico-Chirurgical Transactions, relates several cases of secondary abscess of purulent infiltrations as succeeding injuries of the head; yet I incline to the belief of the truth of what I have asserted,—that is, fever inducing an anæmiated condition of the cellular tissue, as when suppuration begins to spread in the cellular tissue, the lymphatic vessels implicated lose their vitality with a diminution of albumen, and the whole is resolved into abscesses, circumscribed by a cellulo-vascular, granulating membrane.

The situation in which I have seen these abscesses has been in the regions of the abdomen and the outer part of occurrence in this boy's leg is a sign of its greater weakness; although before one could come to any certain conclusion on the subject, a much more extended observation of similar cases would be necessary,—a matter, I fear, of some little difficulty, as there are but about half a dozen living cases of constriction on record, and I think only one or two besides this where it occurred high up in the limb.

I have stated that by many of the older observers these deformities were supposed to be the result of imperfect development, and it would seem that these suppositions were not altogether without foundation, for in many of the cases where intra-uterine amputation has taken place, malformation of some other part of the body has coexisted, as in the boy lately in the hospital, the deficiency of whose fingers was of such a nature as only to have been caused by imperfect development, all the component parts of the fingers being present, but in so undeveloped a degree that they might easily have been, and indeed were at first, mistaken for the stumps of the natural fingers, cut off at the first phalanges; a state of things which was shown not really to be the case, from the fact that at the extremity of each might be seen rudimentary nails—unless indeed there had been amputation and partial reproduction, as in the following cases related by Dr. Simpson in the Monthly Medical Journal, 1848. It occurred in a girl aged 11, who had been born without the left upper extremity from a short way below the elbow-joint. The arm of this side was of the natural size and form, but below the forearm consisted merely of a stump about two inches long. It had all the appearance of having been amputated at about the junction of its upper and middle third, the surface having subsequently healed over in a very perfect manner. No appearance of cicatrization was visible, except over the ends of the bones, where the skin was puckered and drawn in in an umbilical form. Midway between and a little in front of these points, was a raised cutanéous tubercle, divided on the surface into five minute nodules, on two of which small points of nail could be detected. This projection, Dr. Simpson stated various reasons for believing, indicated an effort of nature to replace the lost por limb; he considered it, in fact, a rudimentary hand, and a curious illustration of the power of regeneration of even compound parts in the embryo. He also showed a number of casts of similar cases, in all of which the amputation had been at the same place, and in all some attempts, either more or less, at repair had taken place.

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One of the principal reasons why, in many of these cases, the amputated extremity of the limb has not been found,—in so many, indeed, as to have given rise to the opinion that they were always the result of imperfect development,—depends, I believe, upon this, that the fœtus at the time of the formation of the threads is so small, that the separated portion of limb escapes unnoticed amongst the debris of membranes, &c., at the time of birth. So early, indeed, does the amputation sometimes occur, that even when the separated part has been found it has not at first been recognized.

Dr. Montgomery gives a description of an aborted fœtus which had suffered amputation of one of its legs; the stump of this leg was connected with the ankle of the opposite side by a cord, to the centre of which was attached a small oblong body, that proved on examination to be the amputated foot perfectly formed. The amputation had occurred at a very early period.

This case shows how easily a foot or other member might escape without detection: should gestation of the fœtus be continued for its full period, the cord would most probably have been detached from the stump, either by absorption, or the motions of the fœtus. The other foot, also, might have been removed by the same cord, so that the child when born would have presented precisely the same conditions as the fœtus alluded to in St. Bartholomew's Hospital Museum.

I have now stated at some length the different opinions held concerning the means by which these various malformations are produced; and that they are effected by such means I have shown by the recital of several cases bearing upon the subject; and I think I am justified in stating that at the present time but few medical medical men would refer their origin to any other cause; but with the extra-professional public it is otherwise, and indeed some time ago it was so with the great body of members of the profession. Of the influence which the mind has over the process of generation much has been said, some persons having attributed to it not only a power over the physical, but even over the mental faculties, considering that the transitory state of the minds of the parents at the instant of conception is fully able to account for the predominance of any particular talent or propensity in the offspring. Whether such an influence be ever exerted in relation to the mental qualities, however, has but little to do with the present subject, which relates entirely to the physical malformations that occasionally; occur and on this point the investigation is as difficult as on the other. The vulgar opinion is, that all the various congenital physical defects, such as nævi, blemishes, or unnatural formations, are the result of some strong impulse in the mind of the mother, excited either by her imagination, desire, or fear, or indeed by any other faculty or passion that might be sufficiently strong.

But putting aside entirely all the wonderful stories, one may readily believe that the mind has some influence over the nutrition of the fœtus indirectly, though not directly, when we take into consideration the effect all violent or sudden affections or emotions of that organ in the mother have upon her general circulation, and indeed upon all her organic functions, especially when we reflect how much more liable and subject all women are to various nervous affections when pregnant, and how much more likely the uterus is to sympathize with any such disorder when in that state; since we know that, even when unimpregnated, menstruation may be suddenly arrested under similar circumstances.

With the idea, then, that the mind of the mother can influence the nutrition of the fœtus in some degree only, I will conclude the consideration of this subject by expressing the opinion of Dr. Blundell, "That it is contrary to reason, experience, and anatomy, to believe that the strong attention of a mother's mind to a determinate object or event can cause a determinate or specific impression upon the body of her child without any force or violence from without; and that it is equally improbable that, when the imagination is operating, the application of the mother's hand to any part of her own body will cause a disfiguration or specific impression on a corresponding part of the body of the child."

ON ABSCESS OF THE CELLULAR TISSUE.

By John Grantham, F.R.C.S.E.

During the last four or five years I have attended several cases of abscess in the cellular tissue beneath the skin and superficial to the fascia, covering the muscles, which have occurred as the sequelæ of typhoid fever and sub-acute erysipelatous inflammation: such causes, however, may be confounded with secondary abscess, as Mr. Arnott, in the fifteenth volume of the Medico-Chirurgical Transactions, relates several cases of secondary abscess of purulent infiltrations as succeeding injuries of the head; yet I incline to the belief of the truth of what I have asserted,—that is, fever inducing an anæmiated condition of the cellular tissue, as when suppuration begins to spread in the cellular tissue, the lymphatic vessels implicated lose their vitality with a diminution of albumen, and the whole is resolved into abscesses, circumscribed by a cellulo-vascular, granulating membrane.

The situation in which I have seen these abscesses has been in the regions of the abdomen and the outer part of the leg, &c.: they are of a chronic character, so much so as to have been upwards of three months in formation. Pure pus is not secreted in these cysts; it is of a puro-sanguineous character. These abscesses spread by gravity of the fluid, and finally absorption may be rapidly induced so as to prevent the reformation of the abscess.

C. Rokitansky, in the third volume of his Pathological Anatomy, has the following observations at page 7; namely—"The inflammation, whether primary or secondary, may have a more or less distinctly marked exudative character; as is illustrated by phlegmasia alba, as it is called, amongst the primary inflammations, and by the numerous instances of inflammation which, in cellular tissue by metastasis after acute exanthemata, typhus, &c., are amongst the secondary." Such forms of abscess have also been ascribed to purulent absorption in the venous system. Such an idea, I presume, will not now be received, as it has been so ably combated by Mr. Travers and others.

In further illustration of this subject, I shall relate two cases which are written from memory; therefore the reader must not expect minute details. In the latter part of the year 1849, I saw a young man, in consultation with another practitioner, who had been suffering from the effects of typhus abdominalis. During the stage of convalescence the parietes of the right side of the abdomen became painful and swollen, with fluctuations extending down to the right inguinal fossa, assuming the appearance of psoas abscess. On manual investigation I decided that the fluctuation was superficial; after a time the abscess burst, and I supposed the case to be going on well until again consulted; then I learned that the abscess had been discharging a mixed puro-sanguineous fluid, varying as to the quality of blood or serum for four months, in which time the adjacent cellular tissue had been further destroyed. I directed my attention to the general health, by ordering the patient a milk diet, quinine, with occasional use of gentle aperients, and applied pressure to the abdomen by means of a flannel roller, and the application of warm water dressings to the wound: such treatment appeared to be, for a time, of service, yet the adhesive inflammation did not take place in the sac until I applied the sulphate of copper within the cyst; then union of its sides ensued in a most satisfactory manner.

The second case of abscess in the cellular tissue occurred in a patient at the eighth month of gestation, and is an example of this kind of purulent infiltration succeeding erysipelatous inflammation: it commenced on the upper and outer part of the left thigh, and extended down the leg below the knee-joint. In this case the derma became congested, and I thought would have terminated in desquamation of the cuticle; such appeared to be the action going on in the limb. At the full period labour came on, and the case so far was favourably progressing, until the tenth day after delivery, when the pain and inflammation returned in the part previously affected by erysipelas, and an extensive collection of puro-sanguineous fluid was generated in the cellular tissue. I opened the abscess on the seventeenth day, when about a pint and a half of puro-sanguineous fluid was discharged. After discharging about a week, I passed a seton through the lower part of the sac, below the head of the fibula, by means of a needle holding four threads, which brought on adhesive inflammation, and thereby prevented the reformation of any fluid.

The practical inference I am endeavouring to deduce from the above statement is the necessity of early producing adhesive inflammation,—*i. e.*, within a few days, or probably it may be done when the fluid escapes by a natural exit or by the lancet: most certain I am that such abscesses ought to be treated on the same principle as we now adopt for the radical cure of hydrocele; and I give the preference to the use of the seton, as it can be so easily removed when needful, and, as far as my experience in this department of surgery has gone, it is perfectly safe.*

Crayford, March 27th, 1851.

OBITUARY.

On Friday, the 4th inst., Arthur Cocke, Esq., at his residence, 32, Howland-street, Fitzroy-square, aged 54, after a long and painful illness.

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* This mode of treating abscesses by seton, was brought before the Surgical Society of Ireland, by Dr. Darby, in 1847. A short notice of his paper will be found in the MEDICAL GAZETTE, vol. xl. page 988.

ON THE

DIFFERENT WAYS IN WHICH DEATH OCCURS.

By Benjamin W. Richardson,

Lic. Fac. Phys. & Surg. Glas.; Fellow of the Medical Society of London.

[Continued from page 497.]

Syncope from obstruction of blood in, or near to, the heart — Muscular structure fails from sudden over-exertion.— Effects of such sudden over-exertion, the heart being the organ implicated.— Effects of compression on large arteries. — Effects of occlusion of large arteries—cases.—Embarrassment of the heart through causes acting on the veins. Syncope *following venesection —following pressure on descending veins— Case.*

In commencing this paper, I beg to recall the attention of my reader to a passage in my first contribution, where it is stated, that syncope from derangement of the circulating machinery may arise from two kinds of derangement—*diversion* of blood from the centre of the circulation, and *accumulation* of blood at the centre.

My last paper was occupied with remarks on the first of these derangements; the present one claims the second for its subject.

That the same form of death should arise from causes so obviously different, may, I confess, at first sight seem somewhat strange; still the fact is so, as experience completely verifies.

There is a tolerably well-known occurrence, relating to muscular action generally, which I may most appropriately mention here—viz. that a muscle will sometimes become more completely paralyzed, in consequence of being thrown suddenly into a state of extreme contraction, than from an over long-continued course of more moderate exertion. Thus violent spasmodic action in a muscle is often followed by extreme relaxation, having the character of paralysis; and instances are not rare in which persons, upon overtaxing some part of their voluntary muscular organism, have lost the power of motion in the muscle or muscles altogether, either at the time, when summoning them into action, or immediately afterwards.*

Now the heart, as well as every other muscle of the body, is more or less subject to paralysis from similar causes; and though, unlike many other muscles, it is ever in action, it is absolutely necessary that its motion be carried on regularly, and also that the organ occasionally be relieved by the act of recumbency. Change this order of things, and the result at once becomes apparent. Quicken the action of the organ to an unnatural extent, and it soon beats out of time. Momentarily overtax it with blood to a great degree, and its energy fails, and with this failure life itself may cease.

Nor is it absolutely necessary for the heart to be in a very diseased state that this should ensue; for, although some forms of disease will, it is true, favour the occurrence of this kind of syncope, yet there are others which will tend to make it less likely to happen. Granting, then, that such a state of things can exist in the heart, from an overcharge of blood, it is easy to see that the same symptoms will follow as in the case of diversion of blood from the centre. The heart fails as effectually to throw out its currents, in fact, as though there were none in it to be thrown out; and as the blood itself will leave the circumference of the body by arterial and capillary contraction, and retire into the neighbourhood of the heart, there to lie stagnant, it is quite evident that consciousness, heat on the external surface, and power, must be lost, and thus all the specific marks of syncope present themselves.

It is interesting, likewise, to observe that this form of syncope borders very closely, in some points of view, on that which arises from *rupture* of the central organ or its neighbouring vessels, and that a modification of the causes which have been previously explained, as tending to produce rupture of the heart, will give rise to the obstruction specified.

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* Thus a man endeavours to lift an extraordinary weight, and, by summoning up unusual muscular power, he may for a moment accomplish the feat; but the weight soon falls, the muscles called into play are paralyzed, and the person is said to have "overstrained himself." The same paralysis, also, will arise from hurling a light substance—as a ball—with undue force. It is at the same time a curious fact, that a long-continued series of moderate over-exertions in the muscular movements produce a state the very opposite—viz. spasm. And thus it is related of Grimaldi, that the spasms following his pantomime performances were so severe, that friction to the pained muscles had to be employed for hours afterwards; so that whilst his audience were bursting with laughter at what they had just seen, he himself was writhing in pain from what he had just done.

The first cause of syncope of the kind I am now considering, to which I shall allude, is that arising from the arrest of blood flowing through large arterial trunks, an arrest that may arise from two causes—compression upon the artery externally, or a filling up of the interior of the tube.

This was, I doubt not, the cause and form of death in those notable experiments of Sir Astley Cooper, in which he suddenly and simultaneously compressed the carotid and vertebral arteries in the rabbit. I am well aware that the failure of the heart and loss of life in these cases have always been set down as arising from the sudden removal of arterial blood from the brain; but upon what grounds we are bound to believe this statement I am quite at a loss to determine.

It is well known that in other experiments, the brain has actually been removed from the body, without the action of the heart ceasing, or life being lost. Fleurens removed the cerebrum of a chicken, and kept the creature for several months afterwards, fattening it even in the meantime. Magendie removed cerebrum and cerebellum from a hedgehog, and the animal not only lived afterwards, but even showed signs of consciousness; and the brain of a puppy has also been removed, without an arrest in the action of the heart. Nor can it be said that the absence of blood to the upper part of the spinal cord had anything to do with the failure of the circulation, since Dr. Wilson Philip and other physiologists found a beating heart after both brain and spinal cord had been cleanly removed or otherwise destroyed by the knife.

If, therefore, these most important parts of the nervous system can be removed without failure of the heart following, it is quite clear that the supply of arterial blood being cut off from them cannot in any way account for such consequences as were witnessed; but we can find a much more satisfactory cause for death on the mechanical principle that the heart was choked by the arrest of blood, produced by the pressure that was applied to the vessels named.

Moreover, the very experiments of Sir Astley Cooper do themselves go a long way to prove that the arrest of blood which he produced by the compression did not so materially affect the life of the animal by neutralizing the powers of the brain as might be at first sight supposed; for it will be borne in mind that when he tied the carotid and vertebral arteries simultaneously in the dog, death did not ensue, a result which was supposed to arise by the process of anastomosis set up thereupon to supply the brain with blood. It is, however, quite plain, notwithstanding the great value that would eventually arise in a re-establishment of the circulation by anastomosis, that the process of anastomosis could not possibly have been set up so rapidly as to afford the brain at once a sufficiency of blood for supporting its functions. And if, therefore, life is so dependent on the action of the brain, and the action of the brain on the blood which it receives, as is usually supposed, it is obvious that the supply of blood could not even have been momentarily cut off without death ensuing, whereas it must have been cut off for a very considerable period, and yet the animal did not die; however, there is no evident reason why the life of the rabbit should not have been preserved by a setting up of the same process of anastomosis, if that were really sufficient.

But it may be asked, why did not the dog die from a choked heart, as did the rabbit, if this was the immediate cause of death?

I think, setting aside many accidental circumstances, that sufficient cause for the different results may be found in the differences that naturally exist in the tissues of the two animals. The rabbit possessing a highly delicate muscular organism, would suffer from an obstruction at the heart in a marked and probably fatal degree, while in the dog a stronger and more effective effort would be made by the heart to get rid of the load thrown upon it.*

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* Nothing is more plain than that in experimenting upon various animals, full allowance ought to be made for the different grades of power with which they are endowed. In the rabbit and dog this difference is most material, for while a rabbit, as every schoolboy knows, is killed by a slight accident, there is nothing in the animal

The tying of the abdominal aorta in the dog has often been performed since the days of that great master in surgery, Sir Astley Cooper, and generally speaking the animal does well after it, never dying, at the moment of tightening the ligature, from syncope; and this is, indeed, what might be expected, because the large vessels, given off above the point of ligature, are capable of expanding sufficiently to prevent a fatal pressure upon the heart.

To the surgeon it is an interesting fact, that compression of most important parts of the arterial system may be made without the occurrence of syncope, when the central organ of the circulation is not weakened or otherwise diseased, inasmuch as such knowledge gives him the greater boldness in performing operations on vessels of large calibre. It would seem, indeed, that a fatal obstruction to the movement of the heart never occurs from a sudden arrest in the circulation of an arterial trunk near to the heart, if there be another trunk of equal calibre between the heart and the point of stoppage, or if there be in place of a single equal trunk a sufficient number of smaller branches to make up for the largeer one in size. I have looked carefully over many records of surgery in order to satisfy myself on this point, and the result has been that in no case have I found a fatal syncope following ligature or compression of an important arterial trunk. There are a few cases on record, however, in which a *tendency* to syncope has occurred after the application of compression to large arteries. And thus Dr. Colles relates an instance, where on tying the right subclavian, symptoms indicating a syncopal attack supervened,—such as dyspnœa, and a sense of oppression at the heart, so that it was judged prudent not at once to tighten the ligature; but these symptoms soon passed off, the ligature was tightened, and although in the end the patient *died*, it was not until several days afterwards, and from a different cause. It is right to add also, that the aorta in this case was found in a diseased condition.

From a series of cases, in which Dr. Francis Home, of Edinburgh, endeavoured to induce menstruation where it was suppressed, by compressing the femoral arteries, according to a plan proposed and employed by Dr. Hamilton, I find one instance in which a decided tendency to a syncopal state came on after such compression, the pulse falling, the patient complaining of vertigo, and the upper parts of the body being bedewed with moisture; but here actual syncope did not occur, nor did the menses appear as the result of this treatment,—a circumstance arising, as Dr. Home supposed, from the suppression having arisen from an over-congested or inflammatory state of the uterus, since blood-letting afterwards had the effect of producing the menstrual discharge.*

It is thus evident that the process of arterial dilatation in one part, accompanying arterial compression of another, is of the greatest saving value to life in the operations alluded to, — a saving value, indeed, which can only be truly estimated by the remembrance of the fact, that the arteria innominata and great abdominal aorta have both been ligatured without the occurrence of immediate danger from an overwhelming of the central organ of the circulation.

But though syncope does not follow compression of the arterial trunks after the manner described, yet it will occur that disease of some parts of the arterial system going on for a long time shall,

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kingdom more tenacious of life than the dog. Those of my readers who have hearts sufficiently callous to wade through the history of the Spanish massacres, in conquering the Americas, will remember the terror with which the Indians viewed the dogs sent out against them, as well as the belief they entertained that the animals were not to be killed by any mortal means. Loncico, the favourite dog of Vasco Nunez, had been in so many engagements, it is said, that he was literally covered with scars, and yet retained his full vigour.

There is also a distinct natural reason why a dog is so much more difficult of destruction than a rabbit,—the former is an animal of the chase, madé to pursue, attack, destroy; the latter an animal in the opposite position, doomed, apparently, to be pursued, conquered, and devoured.

* Home's Clinical Experiments, p. 414. Published in 1783.

In referring to this rather antiquated book, I feel great pleasure in stating how fully I agree with an opinion lately expressed in this journal, by Mr. Gallwey, on the advantages of reading the medical records of days long gone by. The *reports* of cases by old writers frequently afford great instruction, since they are mostly given with fidelity, and with a minute description of many important symptoms that are often allowed to pass unnoticed in these days of the stethoscope, test-tube, and eye-glass. Many of the practical suggestions and opinions, moreover, of the old gentlemen of the gold-headed cane by no means deserve to be treated with a sneer; and though their odd remedies may sometimes provoke a laugh, we have but to open our own pharmacopœias of this nineteenth century to find things quite as capable of exciting our risibility as any of theirs, not excepting, even, their doses of album Græcum, and diets of viper broth.

under certain favourable circumstances, particularly during a weakened state of the heart, give rise to the mode of death under consideration.

In his admirable lectures on diseases of the heart, Dr Latham records a striking case, which I would here adduce as illustrative of the subject in hand:—

"A little boy," he writes, "between four and five years old, and very puny of its age, was brought to the hospital in its mother's arms. Its countenance betrayed great anguish, and its respiration was exceedingly hurried; and there was no part of the chest where the heart could not be felt acting with enormous impulse: at the same time the pulse at the wrist manifested nothing extraordinary. There was, I recollect, no blueness of the lips or other evidence of impediment of passage of blood through the lungs: the hurried breathing seemed to depend upon the simple vehemence of the heart's action."

Dr. Latham here describes his own speculations at the time as to what the case might be: these there is no occasion for me to transcribe, so I pass on to his account of the fatal result, which most immediately, of course, concerns us.

"A few days," he continues, "only elapsed between its admission into the hospital and its death. The manner of its death was peculiar: it suddenly became pale, and the heart, which an instant ago struck forcibly against the ribs, was only just perceived to move, and dissolution was looked for the next moment; but in this state, pale and cold yet apparently sensible, with the heart just moving, and air passing in and out of the lungs, as it were mechanically, the poor child survived during a whole day, and then it ceased to exist.

"Upon dissection the heart was found enormously enlarged, and every cavity greatly exceeding its natural capacity. To what extent its muscular structure was thickened or attenuated I do not recollect: but the most remarkable circumstance which attracted our attention was this:—that the aorta and all its principal branches, while they were entirely free from disease, were by more than one half less than their usual capacity."*

Another case of death occurring in a similar manner is recorded by Dr. John Davy in his Researches in Anatomy and Physiology. The subject was a soldier of the forty-second regiment.

"Hector McCullum, aged thirty-six years, notwithstanding intemperate habits, had good health until the beginning of 1833, when he first experienced some difficulty of breathing; but he continued at his duty until the 18th of February, 1834. He was then admitted into hospital at Malta. The principal symptoms at that time were palpitation, with tumultuous action of the heart, greatly aggravated by bodily exertion, with dyspnœa, aggravated by the same cause, occurring in paroxysms, during which he experienced temporary loss of vision, and occasionally syncope. No pulse could be felt at either wrist, nor in the brachial arteries, and indistinctly only in the femoral. The tongue was clean, the appetite good, the functions generally (independent of respiration) well performed; yet he was feeble: he gradually became worse. In May the dyspnœa was continually severe, often threatening suffocation, the face assuming a livid hue, with great agony of suffering. Now no pulsation could be felt in the left carotid artery, and only very indistinctly in the right, without return of the pulse in either wrist. He died suddenly on the 2d of June.

"Two pints of serum were found in the left pleura," (at the inspection) "and three in the right. The lungs were not apparently diseased. The heart was somewhat larger than natural: its valves were pretty sound, even the semilunar of the aorta. The aorta throughout its arch was enlarged, but only in a moderate degree, and its coats were more or less altered. Its inner coat was irregularly thickened and opaque, and the middle coat corresponding had become thinned and yellow. Thin plates of bone were formed in or under the former, and atheromatous matter here and there in the latter, and in one spot matter of this kind, of about the bulk of a peppercorn, soft, brownish, pultaceous, had penetrated through all the coats to the external loose cellular enveloping tissue. The left carotid and subclavian arteries were completely obstructed, firmly plugged up with dense white matter, lymph. No trace even of the opening of the carotid from the aorta could be discovered, and a very slight trace only of the other, a little cavity, a line or two deep, resembling the vestige of the aperture of the ductus arteriosus in the adult. The state of the right subclavian and carotid arteries unfortunately was not determined. The descending aorta was of its normal dimensions."

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* Dr. Latham's Lectures on Subjects connected with Clinical Medicine; Lecture xxix. on Diseases of the Heart, vol. ii. p. 213-14.

Dr. Davy remarks that the common train of events which seems to constitute the rule in cases of occlusion of arteries, viz., the setting up of a new circulation by anastomosis, and extension of other branches, was in this case omitted, and this led to the fatal result: he believes moreover, that occlusion of arteries is of more frequent occurrence than is commonly supposed, he having frequently met with it in his inspections.*

Both these cases are very useful illustrations of this part of my subject. In neither of them can it be doubted that syncope was the cause of death, and that the syncope itself arose from the obstructed arterial trunks.

It would have been pleasing to have known what were the acts of the patients at the moment of the commencement of the fatal attack, and also the amount of blood that was found in the heart at the autopsy, and whether most existed on the right or left side; but these matters unfortunately are not recorded.

The reader will perceive, however, how numerous are the conditions, which, brought into action, would lead to a fatal obstruction at the heart, in cases where the large vessels were so thoroughly closed; such, for instance, as a trifling effort, a sudden change of position, and other events on which I need not dwell.

It is scarcely necessary to allude to the fact, that obstructions of other kinds in the arteries, as pressure upon them from fluids and tumors, or growths on their internal surfaces, will produce the same results.

Neither does it require any more than the simplest mention, that similar obstructions to the pulmonary artery are attended with a like train of evils, except that in such cases it is the right side of the heart which first suffers.

In the two cases which I have transcribed, it is interesting to observe that the fatal occurrence had been kept back for a considerable time by the heart having dilated in order to accommodate itself to the obstruction. Dr. Latham, indeed, immediately after narrating the case which I have laid before my readers, relates another of a like kind, taken from Meckel's History of the Royal Academy of Berlin, for the year 1750, in which "the aorta throughout the whole course, especially through the chest, and all its principal branches, was marvellously narrowed," while "the heart had both its ventricles dilated, but the left to a degree far greater than any other cavity. It was capable of containing the prodigious quantity of twelve ounces, while the corresponding ventricle only contained four. The aorta was not more than half the diameter of the pulmonary artery" (p. 215).

Dr. Latham most properly remarks, after opining that the defect in both the cases he has given arose from congenital malformation, "that enlargement of the heart was a natural and necessary consequence, and perhaps even an indispensable condition for the continuance of life."

As we proceed, other equally admirable compensations present themselves for our consideration.

[Dr. Edwards Crisp, in his Essay on the Structure and Diseases of the Blood-Vessels; has shown great diligence in collecting cases of obliterations and contractions of the aorta, in different parts of its course; and he appends a table of seventeen cases of the kind, in which the obstruction occurred near to the seat of the ductus arteriosus. In some of these cases *rupture of the hear or of the aorta* was the immediate cause of death, while others are set down, simply, as *sudden death*, or as death *from a cause not known;* one is stated to have been attended with *coma*.

Dr. Crisp also refers to the history of a case where the aorta was obliterated above the diaphragm, a preparation of which is preserved in the Guy's Hospital Museum. The patient was a watchman, who, after suffering from all the symptoms of an oppressed heart, died suddenly, it was supposed from apoplexy, though it is to be observed that no extravasation of blood was found within the skull at the autopsy. My own opinion is, that the immediate cause of death, in the greater number of the cases collected by Dr. Crisp, was *syncope*, and the course of my inquiries leads me to conclude that the day is fast approaching when the term *apoplexy* will become a much greater rarity in our tables of sudden death, than it is at present, and when the heart will be found to deserve much of that blame which is now often and most unfairly thrown upon the brain.]

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* Davy's Researches, Anatomical and Physiological, vol. i. pp. 426 to 436. I feel the greater pleasure in making use of these valuable researches, inasmuch as in so doing I am but fulfilling the purpose for which they were written by the talented author, who gives in the preface of the book, as one reason for having made the collection, the intimation that he writes it to prove of service to the medical inquirer.

As yet, however, the inquirer into this important subject will find his efforts very much crippled by the fact that the narrators of cases of sudden death are not accustomed so to classify the symptoms immediately preceding dissolution, and the morbid appearances after death, as to render their reports proper material on which to found explicit views, under the guidance of deductive reasoning.

Syncope from overwhelming of the heart may arise from causes affecting the *venous system*. Thus when the heart has been weakened to a considerable extent, by abstraction of blood, but so gradually that it has followed the lessening charge poured into it, it is in every way favourably circumstanced for being overwhelmed on an additional charge being thrown upon it.

It frequently happens (taking a common example), in letting blood from the arm, that on the first removal of the fillet the patient faints. But this is not the immediate effect of the blood lost, as is commonly believed, but of the flood suddenly let loose upon the partially exhausted heart from the compressed vessels, and overwhelming it in a greater or less degree.

The same effect is seen during the operation of transfusion of blood into the veins, in cases of dangerous hæmorrhage, if the injected fluid be at first forced on too quickly.

This syncope, or syncopal tendency, following the re-establishment of the venous current after venesection, did not escape the observation of our immortal countryman, Harvey, who believed it to arise from the cold blood ascending to the heart, as appears from the following passage:—

"And I have been myself inclined to think that this cold blood rising upwards to the heart was the cause of the fainting that often occurs after blood-letting. Fainting frequently supervenes, even in robust subjects, and most at the moment of undoing the fillet, as the vulgar say, from the turning of the blood."*

Another cause of this form of syncope, by means of the veins, arises in those cases where blood has been allowed to accumulate in the upper half of the body, and to fall suddenly back upon the heart. I remember a remarkable case of sudden death occurring, as I am inclined to believe, from this cause. A tall old man had been employed during the greater part of a hot day in hoeing up potatoes, which implies painful stooping. He was observed, on raising himself into the erect position, to pause for a moment, and then suddenly to fall backwards. On assistance reaching him, he was found pale, cold on the surface, flaccid, and lifeless. The only pathological condition apparent was a slight oozing of blood from the nose, indicating that congestion had existed there.

Amongst the authors I have perused I have often found *mention* made of this form of syncope; but I do not remember having seen recorded many marked cases of the kind.

The fallacy of believing that syncope in these instances occurs from the brain being suddenly robbed of blood I trust I have fully proved in my first paper; so I need not return to the subject in this place.†

But there is a modification of this form of syncope, arising from mechanical derangement in the venous circulation, to which I am most anxious to direct attention. It occurs in plethoric people in whom the heart is weak, and usually from the momentary arrest of the venous currents in the neck.

A case to which I was summoned in July last will exemplify fully what is meant.

A tall plethoric gentleman was driving in a gig, when his attention was called to something behind him, to see which he turned his head to look back. On resuming his first position, however, he sank down, and would have fallen from the gig, but for the assistance of his wife, who was riding with him. The accident happened most fortunately close to a cottage, into which the gentleman was conveyed; and, as faintness seemed to the bystanders to be the affection under which he was labouring, water was sprinkled on his face, he was exposed to the air, and ammonia was applied to his nose. Upon my arrival a very short time after the accident, he was still very pale and cold, the pulse at the wrist nearly imperceptible and irregular; but, on immersing the feet and legs, as far as the knees, into very hot water, with mustard superadded to it, the balance of the circulation seemed at once restored, the embarrassed heart began to act freely; and in a very brief period the patient felt so revived that, in obstinate opposition to my wishes, he insisted on resuming the post of charioteer, and of pursuing his journey.

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* Vide Dr. Willis's excellent translation of the works of Harvey for the Sydenham Society. Work on the Circulation, p. 58.

† Vide Medical Gazette for Feb. 26, p. 36.

The cause of the syncope in this case is most easily traceable. In turning round the head, compression was made upon one or more of the large descending veins in the neck, giving rise to an arrest in its current for a certain period; but, as the heart, fed by all the veins of the lower part of the body, and by some from the upper, still continued to act, a considerable accumulation of venous blood would take place above the point where the implicated veins were constricted, which accumulation, as the impediment was removed, fell down upon the heart, and, embarrassing it in its movements, produced the symptoms described.

It is worthy also of remark, that the good result of the treatment employed gives additional force to the argument, it being evident that the derivative effect of the heat applied to the lower extremities gave relief by unloading the oppressed heart.

[To be continued.]

POISONING BY HYOSCYAMUS.

M. Caudray, of Vaucluse, has recently met with four cases of poisoning by Hyoscyamus. Four monks ate the poison, which they had mistaken for some other vegetable, in a dish prepared for dinner. In two hours two of them were in a state of delirium bordering on insanity, and a third was so violent that it required six persons to control him. The fourth having eaten less than the others was not so seriously affected. Emetics were immediately administered with the best effects. A dog which ate a portion of the food was found some time afterwards in a state of stupor.

MEDICAL GAZETTE.

FRIDAY, APRIL 11, 1851.

In the Report of the Board of Health on the Supply of Water to the Metropolis, we find the following conclusions respecting the quality of the water of the river Thames:—

1. That for domestic use it is inferior to the average quality of waters supplied to towns:
2. That its inferiority as a supply for domestic use arises chiefly *from an excess of hardness:*
3. That even when taken above the reach of pollution from the sewers of the metropolis, it contains *an excess*, varying with the season, of *animal and vegetable matter:*
4. That although this latter cause of inferiority may be in part removed or corrected by filtration, the excess of hardness will still remain, rendering this water especially unfit for the following uses, namely, for cleansing the skin, and for the ordinary purposes of washing, by occasioning an excessive consumption of soap; *for the preparation of tea, by occasioning waste to the like extent;* and for all culinary processes by diminishing their efficiency and increasing their expense.
5. That the quality of the water of the river Lea and of the New River is, in this respect, no better than that of the Thames water taken beyond the influence of the sewage of the metropolis.

It will be seen that these conclusions embody a sweeping condemnation of all the sources of water whence this great metropolis is now and has been for many years supplied; and they of course involve the adoption of the scheme of substituting Rain water for the water of the Thames, the Lea, and New River. The names attached to this Report are Carlisle, Ashley, Edwin Chadwick, and T. Southwood

SMITH. This is in some measure a relief to our minds; because, however competent these gentlemen may be in their own peculiar spheres of action, we are not disposed to concede to any one of them the possession of that amount of scientific knowledge which would qualify them to draw conclusions on a question of such vital importance to the inhabitants of London. LORDS ASHLEY and CARLISLE are, by the terms of this report, supposed to be fully acquainted with the chemical and other properties of pluvial and terrestrial waters. They pronounce authoritative decisions on hardness,—on the action of water on lead and other metals,—the influence of various waters on health,—the alleged waste of soap and tea by reason of hardness, and the unfitness of the river water for the purposes of cooking, &c. The witnesses called before them were, for the most part, persons who it was well known would depose in favour of their scheme; they were quite prepared to condemn the river supply, and to advocate the superiority of rain water and gathering grounds. Although sitting, in some measure, as judges for the public, the Members of the Board took only ex-parte evidence, and they have naturally enough decided in favour of their own views.

The incompetency of the judges is clearly established by the nature of the Report: it is full of contradictory and conflicting statements, and it is only necessary to expose these to show that the conclusions are erroneous, and that it would be unsafe to rely upon them.

The two first conclusions inform us that the London river water is inferior to the *average quality* supplied to towns, and that this inferiority, as a supply for domestic use, arises chiefly from an *excess of hardness*. According to the evidence of DR. LYON PLAYFAIR, the average hardness of water supplied to the various large towns of England is probably not less than 7° or 8°, while the average of the Thames, delivered in London, is not more than 13°. We cannot admit this loose statement as *proof*.—A cross-examination of this witness, by gentlemen well versed in searching out the bases of scientific opinions, would have placed us in a position to judge of its real value. According to our experience, it is rare to meet in the general supply of large towns, with a softer water than that supplied by the West Middlesex Company, which is taken from the Thames between Barnes and Chiswick. If we follow Dr. Clark's artificial mode of estimating the hardness of water, the hardness of this water varies from 13° to 14°;* but taking absolutely pure water as unity it has a hardness of only 9°. The same remark applies to the East London water derived from the river Lea. The New River water is somewhat harder, in the proportion of about one-tenth or one-eleventh.

The Thames (West Middlesex) water has been lately compared with fourteen samples taken indiscriminately from different towns. With two exceptions, the Thames water was softer than any of these samples; and the two exceptions were Artesian waters, which are naturally soft, not from purity, but from the chemical nature of their constituents. Some of these samples, which are in good repute in their respective localities, were half again as hard as the Thames water above mentioned! When compared with well-waters, upon which the inhabitants of many towns and of most villages rely for diurnal use, the Thames water is incomparably softer. The two first conclusions of the Board of Health, condemning the River water "from an excess of hardness," are not supported by any satisfactory evidence that we can find in the Report. The utmost extent to which the Government chemist, Dr. Lyon Playfair, goes, is to aver that the average hardness of the water of towns is "*probably not less* than seven or eight degrees," while "the Thames water would be about eight degrees above the average."* We object to any kind of *probability*, when we can get at facts; and we cannot admit averages of hardness unless the number and kind of facts upon which the average is based be plainly set forth. Take the case of a town chiefly supplied by a river of which the water is hard, while there are a few factories in that town using Artesian water which happens to be remarkably soft. An average struck among these samples would lead to the erroneous inference that the town was supplied with a very soft water, when the contrary would be the fact. We have found in one large town that the waters used by the inhabitants varied, when compared with pure or distilled water, from two and a half degrees to nineteen degrees of hardness! There is, we repeat, nothing in the Report to show that the conclusion regarding the excessive hardness of the Thames water is based on anything more than Dr. Playfair's standard of probability, which has been adopted by the Board of Health without cross-examination or further inquiry.

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* It has been proved by the researches of many chemists of repute, that Dr. Clark's soap test and scale of degrees are liable to numerous fallacies. In fact, Dr Clark admits that in one case his soap test, tried by himself, indicated the *same number of degrees* of hardness in two waters, one of which was hard river water, and the other a mixture of equal parts of the same water with absolutely pure or distilled water. The test therefore failed to show any difference between two waters one of which could have had only *half the hardness* of the other! If Dr. Playfair has relied upon this test, his results are open to a serious objection.

We believe that there are hundreds of localities in England where the inhabitants would deem it a great boon to have access to a water, relatively speaking, so soft as that which is here condemned, upon exparte statements, as inferior from *an excess* of hardness.

The 4th conclusion tells us that the Thames water is unfit for the following uses, "namely, for cleansing the skin, and for the ordinary purposes of washing, by occasioning an excessive consumption of soap; for the preparation of tea, by occasioning waste to the like extent; and for all culinary processes, by diminishing their efficiency and increasing their expense." Therefore, after about thirty or forty years' use, the inhabitants of London are informed that they can neither cleanse their skins, wash linen, make tea or cook, with Thames water! We might leave this as a question of experience, but as the rain-water, which the Board of Health propose to substitute for that of the Thames, has not yet been tried in the metropolis, it may be supposed that there are enormous economical advantages to be obtained in cleansing and cooking, and the saving of soap and tea, by rejecting the present river supply, and adopting the scheme of gathering grounds. We are sorry to dispel this delusion, if such an inference has been drawn by those who are inclined to put faith in the Water Report; but the Board furnish us with sufficient facts to show that the evidence on which they rely, has been "cooked," under the auspices of Soyer and other scientific cooks, and that it literally proves nothing with regard to a saving of soap, tea, or fuel.

With respect to soap we find it stated in the Report, that the quantity consumed in London is 800 tons per month, or nearly 10,000 tons per annum, and that the sum of *five millions* per annum is actually expended for the purposes of washing.* How much of this sum is to be saved by the substitution of Bagshot water is not stated, but we are left to infer, somewhat darkly, that owing to the 12 or 13 grains of the salts of lime contained in an imperial gallon of Thames water, there is in some way or other an enormous annual waste of capital carried into the Thames in the shape of suds, and hence that there will be a proportionate saving by the change.

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* Appendix to Report, No. 3, p. 79.

* See p. 75. This is equal to about one-tenth of the revenue of the British empire. Dr. Clark calls this a rough (very rough?) estimate. It is equal to fifty shillings per annum for every inhabitant of London. Where, then, are the great unwashed?

We need hardly tell our readers that, for the purposes of washing linen, water must be boiled, whatever its degree of hardness; and further that while soft water is unchanged by boiling, hard water loses a portion of its calcareous salts, so as to become greatly softened. It has been found by direct experiment that the waters of the West Middlesex and East London Companies, when boiled for only ten minutes, lose so much of their carbonate of lime by precipitation, that their hardness is reduced to about *one-half* of that of the cold water.

Notwithstanding this simple fact, which it is in the power of every individual to ascertain, and which is practically admitted by the Board of Health, when they assert that the hardness of the Thames water causes it to fur boilers, tea kettles, &c., they accept and record evidence in which this difference in the effect of boiling on hard and soft water is wholly disregarded. Let our readers attend to the following anecdote, given by Dr. Clark in his evidence, respecting the waste of soap, and the consequent wear and tear of clothes:—

> "Two young men, brothers, in Glasgow, were put into counting-houses, one in London and the other in Glasgow. They had each a similar assortment of shirts given to them. Some time after, when the brother in London came back on a visit to Glasgow, the lady of the house pointed out, to the wonder of her female friends, the difference there was in the wear of the shirts of the two brothers, that had been given at the same time; those that had undergone the London washing were so much more worn than the others which had been washed at Glasgow. Yet I can speak from experience that linen gets soiled from the atmosphere rather more readily in Glasgow than in London."

The following question was then put, in order to place in contrast hard and soft water:—

> "What was the difference in the hardness of the water?—The hardness of the Glasgow water was about 4°, and that of London about 12°."

Dr. Clark is here allowed to compare, without a single question, Thames water of its ordinary hardness *before* boiling, with that used in Glasgow, and which is admitted to be already soft. The boiled London water would not retain a hardness of 12°, but fall to 6°: hence the wear and tear of the linen must be assigned to some other cause irrespective of the calcareous salts contained in the water. The false reasoning to which this mode of dealing with facts leads, is well set forth in the following paragraph. It is stated to be derived from an actual case: the facts may be true, but we deny the correetness of the inference:—

> "The difference does not, however end with the additional cost in material and labour, inasmuch as the hard water requires twice the time, which is probably the greatest tax and inconvenience, as the whole house is disturbed during the process; but beyond this there is the additional wear and deterioration upon all clothes, especially those of a fine texture, such as muslins and cambrics. The destruction of these is doubled by hard water; so that if five shillings represents the cost of washing a certain amount of clothes with soft or rain water, four times this sum, or one pound sterling, will be the cost of using hard water, such as the Chelsea Works' supply,—namely 16 degrees of hardness according to Dr. Clark's soap test."

It is here actually pretended that the presence of 1-6000th part, by weight, of calcareous matter in Thames water, *quadruples* the cost of washing linen!

The public are led to believe that the water is just as hard when used for washing, as when taken from the Thames; and that Thames water does not become softened by boiling, although it is held by the Board to be a serious objection to its use, that it furs boilers and tea kettles! It is scarcely necessary for us to expose the inconsistency of these views. It is impossible that a deposit of calcareous salts can take place during boiling, without the water becoming proportionately softened; and yet, for the sake of making out an extreme case against London water, the Board of Health assume that the water is just as hard when used for washing, as when flowing in the bed of the river!

We may here dismiss this question in reference to the waste of soap by Thames water. The act of boiling for a few minutes brings it to a degree of softness equal to that of any water which can be economically substituted for it. The Board appear to forget that very pure water, such as rain or distilled water, will dissolve soap to any extent, and in thus professing to provide the London public with water which will not wastefully consume soap by reason of the calcareous salts contained in it, they are also bound to provide some rules for preventing washerwomen and others from using a larger quantity of soap with soft water than proper scientific data would justify. It is one thing to set limits to what is necessary for detergency in hard and soft water, by the use of the soap test; but it is another thing to suppose that these limits in the use of soap will be observed by the mass of the working population. Let us suppose that a gallon of distilled or pure water is softened by twenty grains of soap. A gallon of *cold* Thames water will require about one hundred and sixty grains to produce the same amount of detergency. A gallon of *boiled* Thames water would require eighty grains, and a gallon of the Bagshot water, proposed to be supplied to London by the Board of Health, would require about sixty grains.

The difference in consumption is really not between the sixty and hundred and sixty grains, as the Board of Health would lead the public to suppose, but between the sixty and eighty grains; and they assume that with a water which will dissolve easily a pound to the gallon, a washerwoman will stop exactly when she has reached sixty grains to the gallon! If she carries her consumption of soap to a hundred or two hundred grains, there will be no saving on the five millions alleged to be annually expended for washing by the inhabitants of London.

At another opportunity we shall examine the tea and cooking questions

Reviews.

On the Diseases of Women, including Diseases of Pregnancy and Childbed. By FLEETWOOD CHURCHILL, M.D., M.R.I.A., &c. &c. Third edition Small 8vo. pp. 754. Dublin: Fannin and Co. London: Longman. Edinburgh: Maclachlan. 1850.

THE contents of a work of the character of that now before us, carrying with it the third *imprimatur* of the profession, may be affirmed to be generally familiar to medical readers; at least, so far as the two previous editions are concerned. We shall, therefore, fulfil our critical duty towards both author and readers by simply stating the alterations or additions which have been made, and by offering such remarks thereon as these, and the present state of medicine in this department, appear to call for.

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The preface informs us of the following alterations:—

"The present work includes the diseases of pregnancy and childbed, as well as those which occur in the unimpregnated state, so that, within a small compass, the practitioner will be furnished with a sufficiently extensive textbook of these maladies."

Most of the quotations are inserted in the text, instead of being left at the foot of the page as notes—a change which will doubtless facilitate perusal. We are not satisfied, however, with regard to the object of these quotations and references. Dr Churchill states that it has not been his intention merely, or even principally, to inform his readers of his own experience or opinions, but to lay before them the entire knowledge possessed by the profession on each subject. The author modestly suggests that he might perhaps have obtained more individual credit had he written in the first person, while, he adds, "it would be scarcely a question whether his readers would have been equally benefited." We demur to the supposed advantages of this plan, and to the altogether imaginary disadvantages of an opposite course. We conceive it scarcely possible to embody in so small a *manual* (close as is the type) a sufficiently full account of the views of other writers on every important topic; and, therefore, by just so much room as is occupied with an imperfect digest of the opinions of others, does the work lose in the practical value which it would gain from the experience of a practitioner of Dr. Churchill's skill and attainments. On most points of practice we had, for our own guidance, rather take the results of Dr. Churchill's personal observation, than his decision upon the opinions of other practitioners or authors: the former would be most assuredly found more useful at the bedside.

We shall, on the present occasion, chiefly confine our criticisms to a topic of paramount importance at the present day,—we mean the use and abuse of the *speculum*. We shall first quote Dr. Churchill's remarks on this subject:—

> "A good deal of discussion has taken place lately as to the use and abuse of the speculum; and I trust the reader will bear with me while I say a few words on this subject. I cannot but regard the speculum as a most valuable instrument in judicious hands. To its use we are mainly indebted for our knowledge of certain diseases, for a more accurate diagnosis of others, and for a facility of treatment which nothing else affords. Of the information we obtain by means of it, and of its importance in local applications, I have, I trust, in the following work, given satisfactory proof. But, like other good and useful things, it may be abused. I fear that it has often been used improperly, unnecessarily, and from motives which ought not to influence the members of a liberal profession."
>
> "There are very few cases indeed in which I should feel justified in employing it with young unmarried women; and in no case ought it to be used unless the local symptoms are such as imperatively to require an inspection."
>
> "To make an examination with the finger or speculum, unless it be plainly necessary, is a flagrant breach of delicacy, and, in the case of young unmarried women, it is almost a crime."
>
> "But, on the other hand, if the case require it in the conscientious opinion of the practitioner, and if the disease be such as cannot be satisfactorily made out or treated without it, then its use is not only justifiable, but to reject it would be a blameable neglect of the means within our power for the relief of disease."

We cannot regard the caution here enjoined as sufficiently strongly expressed, especially as it is not borne out,—if, indeed, it be not entirely neutralized—by the extent of space subsequently devoted by the author to the consideration of the speculum and its mode of use, &c. These topics occupy nine pages and a half of the work, and are illustrated by fourteen woodcuts of the various forms of this instrument, which have been contrived by as many *speculators*, and this space does not include numerous paragraphs in which its employment is subsequently advocated in the several forms of vaginal and uterine disease. We are far from wishing to deny that the speculum has any practical value, but we assert that the facts now before the profession demonstrate clearly that its abuse has hitherto far exceeded its use. There is not merely a "fear," as Dr. Churchill expresses it, that "it has often been used improperly," but it is a *painful and undeniable truth* that such has been and is still too often the case. Every practitioner who is not prepared to follow the fashion which has been set in London, and *speculate* upon every patient who has simple uterine or vaginal disorder, or even more general derangement of the health, incurs the risk of being charged with gross neglect of an indispensable means of diagnosis; whereas he has merely reserved an important aid to the detection of obscure disease for its proper occasions, and performed his duty to his patient morally and medically, by prudently declining to use an instrument *doubly* capable of inflicting injury.

We should be disposed to go much further than Dr. Churchill in deprecating the use of the speculum in virgins. We are of opinion that to employ the speculum, or the finger, in the treatment of disease in young unmarried females, "unless it be plainly necessary," is not only "almost a crime," but *quite* a crime, and that one not of venial nature. We never saw the case in which its use was called for in a "young unmarried female:" whether others have is not now the question. We must not omit to express our equally strong conviction that it is no less a crime to make an examination, either with the speculum or finger, in the case even of a married woman, if the proceeding be not "plainly necessary." It may be that the abuse of the speculum is not so extensive in Dublin as in London, and hence the reason why Dr. Churchill less emphatically denounces it. In London the abuse has grown to a frightful extent, and moral evils of the most distressing character have, to our personal knowledge, resulted; while its beneficial effects, in a professional point of view, are more than doubtful, as it is commonly employed in cases in which it is entirely uncalled for.

Dr. Churchill, in pursuance of his plan of bringing the "entire knowledge" of the profession upon all points before his readers, refers, without condemnation, to the use of the uterine sound of Dr. Simpson, as also to the instrument proposed by Dr. Protheroe Smith for the dilatation of the os uteri, "resembling that used for seizing and crushing the stone in lithotrity!!" Surely, it seems to be forgotten, by some, that the uterus is not a stone, nor a gutta-percha bladder, but a living organization endowed with vessels and nerves, as has been well shown by Dr. Oldham and Dr. Robert Lee.

We have made the preceding observations solely with the desire, by our feeble help, to put a stop to practices which cannot fail to cast dishonour on the profession of medicine. We do not direct our censure singularly to Dr. Churchill, whose writings we generally hold in the highest estimation, and to whom we would do the fullest justice, when we say that we doubt not his sole intention was to repress an abuse while advising the judicious use of the instrument.

A great portion of the new matter embodied in the present edition of Dr. Churchill's work is derived from the writings of Dr. Bennett and others, who have recently brought forward certain views and statements with regard to uterine pathology, from which we are compelled to withhold our assent. We cannot, therefore, congratulate his readers on every addition which the author has made to the previous editions of this manual. With the exceptions thus indicated, Dr. Churchill has rendered this volume in every respect worthy of its predecessors; while it has, by some of the alterations already pointed out, far exceeded them in several respects. This may be said more particularly with reference to the union in the same volume of the diseases both of the impregnated and unimpregnated state, by the separation of which the work, as a treatise on "the diseases of women," was, to a certain extent, incomplete.

We shall conclude by remarking that, if this work had represented more exclusively Dr. Churchill's own opinions and practice, and if its pages had been less burdened with those of other writers, its real value would—at least in our estimation—have been greatly enhanced.

The highest praise that we can bestow upon it is to say that it is a most excellent text-book on every subject upon which it treats, with the exception of a want of a clear and distinct discrimination of those cases in which the uterine speculum should be employed.

Southern Medical Reports; consisting of General and Special Reports on the Medical Topography, Meteorology, and Prevalent Diseases, in the following States:—Louisiana, Alabama, Mississippi, North Carolina, South Carolina, Georgia, Florida, Arkansas, Tennessee, Texas. Edited by E. D. Fenner, M.D., of New Orleans, &c. &c. 8vo. pp. 472. New Orleans: Norman. New York: Wood. London: Delf. 1850.

This volume of Reports is the first of a series to be published annually. The character and scope of the work are to a considerable extent set forth on its title-page. It is greatly indebted to its active and learned editor, who has contributed a series of papers in the Reports from Louisiana, having reference to the health, epidemics, &c., of New Orleans.

The volume contains a large amount of information respecting the previous year's epidemic of cholera, and also on the subject of the fevers which prevail in different parts of the Southern States. It includes also the reports of cases of many other forms of disease, and embraces many topics of sanitary importance; constituting altogether a valuable body of pathological facts, from which we shall not hesitate to borrow occasionally.

Cheltenham and its Resources: Mineral Waters, Climate, &c., considered chiefly in a Sanative Point of View. By Edwin Lee. Being the Essay for which the Prize offered by the Town Committee was awarded. 12mo. pp. 135. London: Whittaker. 1851.

We observe that the copyright of this work was presented, as an acknowledgment of the value of his services, to the secretary of the committee formed by the townspeople of Cheltenham to endeavour to promote its attraction, and, if possible, to recal the public to the claims of Cheltenham to vie with any of the southern or Continental watering places to which fashion has, of late years, diverted the stream of visitors. Mr Lee's object has been "to bring the advantages of the place, in a fair and impartial manner, before the public;" and thus, although this work may not be the publication of Mr. Lee, it is his production.

Without being a mere guide-book, the volume sets forth all the attractions which Cheltenham produces, prefaced by an historical sketch, and followed by an account of the therapeutic properties and chemical composition of the waters of Cheltenham, with observations on its climate.

We hope that the inhabitants of Cheltenham will find their endeavours crowned with the success they deserve, and that their delightful town may regain its former favour with the visiting public.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

March 25, 1851.

The President in the Chair.

A short paper by Mr. Hilton, Surgeon to Guy's Hospital, was read, entitled—

Observations on the Treatment of Anasarca or General Dropsy, by puncturing the Legs.

The author's object in bringing forward this communication is to suggest the more frequent employment of puncturing the legs in appropriate cases of anasarca depending upon visceral disease.

After referring to the use of this remedy without due precautions being observed, and the very probable mischief likely to supervene in such a case, the author states that his experience has convinced him of the great relief which anasarcous patients manifest when the fluid is allowed to escape from the areolar tissue of the body through artificial openings; and that when the operation has been done with caution and due consideration, it is not usually followed by unfavourable consequences.

The instrument recommended to be employed [of which there was a drawing sent round] may be described as a very narrow sharp-pointed lancet. Two or sometimes four punctures should be made by it in the outer side of the thigh, by passing it obliquely through the subcutaneous areolar tissue, so as to reach but not to wound the fascia covering the muscles. The limb or limbs, if both have been punctured, to be immediately wrapped separately in warm blankets; these to be renewed often enough to prevent the limb becoming cold or chilled by the accumulation of the exuded fluid around it.

Should the delicacy of the patient's skin, or any apprehension regarding the chemical character of the effused fluid, lead to the supposition or probability that the skin might become excoriated by the fluid running over it, then it is advisable to use capillary conductors, in the form of worsted threads, so arranged as to pass over the punctures, and thence into proper receptacles, so as to keep the limb dry.

After alluding to the continuity of the areolar tissue of the whole body, and expressing his belief that the infiltrated areolar tissue within the body, as well as that of the exterior, may be drained effectually by making punctures in the lower extremities, the paper explains the method of relief which is obtained, viz., that by freeing the subcutaneous areolar tissue of fluid, room or space is given for the external veins to become distended with blood, so as to relieve internal visceral congestion, and prevent effusion of fluid into the serous membranes, which produce great distress and death.

The author states his conviction that such serous effusions are merely the result of a passive congestion in the internal veins, and not of an inflammatory condition of the serous membrane, and that the surest method of preventing the occurrence of internal dropsy is to allow the venous congestion to take place upon the exterior of the body, where it produces a dropsical state of the subcutaneous tissue, and from which the gland may be removed by artificial punctures through the skin.

One of the chief reasons adduced for believing that such dropsies, whether within the body or upon the exterior, are the effect simply of venous congestion is, that they may be imitated after death by injecting any afferent blood-vessel with water, and intercepting its return through the efferent blood-vessel when escape of water occurs through the walls of the blood tubes, and induces a dropsy of the parts.

Other observations were made explaining the rationale of the relief afforded to the heart, lungs, brain, and spinal marrow, by puncturing the legs in cases of anasarca.

Towards the conclusion of the paper the author says that, having seen in very numerous instances extreme relief given to anasarcous patients by puncturing the legs in the way described, and only in a few examples any important inconvenience, and still more rarely, if proper precautions have been taken, any danger from it, except as a part of the patient's general condition, he feels himself justified, from personal experience, in recommending its more frequent adoption, in appropriate cases, than usually obtains in practice.

Dr. Williams said, he fully concurred with the author of the paper, just read, on the advantages of puncturing, but was inclined to doubt that the measure of relief should be taken so much on mere mechanical principles. Dr. Williams considered that every variety of organic disease may exist without causing effusion; but that any organic disease which obstructs the circulation in the legs and functions of the excreting organs, causes effusion to become more general: and from experiments he (Dr. Williams) had found that the fluid serum exuded from the legs or abdomen abounded in urea, and in some instances, biliary malter. Dr. Williams believed, in proportion as the excretions were found in the exuded fluid, relief was given by puncturing these parts fulfilling the functions of excreting organs, and supplying their deficiency. Dr. Williams has known the serum effused in the bed-clothes to smell strongly of urinary matter, and afterwards was ascertained, unequivocally, to be urinous. This frequently occurs, he remarked, in renal disease. Dropsy, he said, ultimately involves renal disease, and puncturing getting rid of a large mass of serum, helps to purify the blood.

Mr. Bransby Cooper observed that the difference between the doctors and surgeons was, that what one considered cause the other considered effect: Dr. Williams implying the necessity of effusion, should result from disease; whereas Mr. Hilton would lead us to suppose, from the continuity of the areolar structure, that every important organ is disturbed; and the question seemed to Mr. Cooper to be, that, on the one hand, this disturbance is said to be the result of the effusion; whereas, on the other, it is considered to arise from original functional disturbance. Mr. Cooper said, he supposed Mr. Hilton quite concurred with Dr. Williams that the serum may contain excrementitious matter; and Mr. Cooper could see no objection to the views of Dr. Williams, which, he considered did not at all interfere with those of Mr. Hilton; but he knew that extensive serous effusion cannot exist for any lentgh of time without general functional disturbance.

Dr. Black said that Mr. Hilton had referred to head symptoms in cases of anasarca, and said the general diffusion of the areolar tissue, both in and out of the profession, was well known—as in butchers blowing up veal; but believes those particular head affections, described by Mr. Hilton, do not result generally from anasarca. Mr. Hilton alluded to the effect of compression on the brain, quite in opposition to the experiment of Hale, who, forcing water into the pulmonary artery, found that it flowed into the bronchial tubes.

Dr. Snow observed that the benefit from puncturing at first is very great, but that he did not see how anything but serum could flow away in the cellular tissue, or that anything could cause the separation of excrementitious matter,—or how this of itself, could purify it; but that, the vascular system being congested, he supposes the kidneys are relieved by the puncturing, and so enabled to perform their functions; but should suppose that, in those cases where relief should be so afforded, injury to the kidney had not advanced very far.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

March 18, 1851.

MR. TOYNBEE exhibited four specimens of

Disease in the Cerebral Cavity, originating in Affections of the External Auditory Meatus.

1. A child, æt. 10 months, had been subject to discharge from the left ear for five months, but only shortly before Mr. Toynbee saw it had there been indications of pain in the ear; this pain was followed by abscess above and behind the ear, which being opened, dead bone was felt situated in the squamous portion, beneath the membranous meatus. Offensive matter was discharged from it, and symptoms of cerebral irritation were followed by extreme debility and death. The portion of the squamous bone with which the membranous meatus was in contact was carious, the dura mater lining its inner surface was thick, and separated from the bone by fluid. The membranous meatus was not ulcerated, but its surface denuded of epidermis, and soft. It had evidently been the seat of catarrhal inflammation.

2. A child, 18 months old, in which the disease was of a character exactly similar to the last, but somewhat further advanced. The carious portion was rather larger, the inner surface of the bone presented numerous small depressions, the dura mater was thick, and separated from the bone by a fluid.

3. A child, æt. 11 months, subject to a discharge from the right ear from birth, experienced great tenderness around the ear at seven months old; extensive sloughing ensued; great debility and cerebral irritation was followed by death. The squamous bone, between the zygomatic and mastoid processes, had been destroyed by caries, and there was an orifice in it as large as a shilling, through which the dura mater was seen: the latter membrane was very thick, and its outer surface was covered by pus.

4. E. C., æt. 12, previously in good health, was seen on the 3rd July, 1850, for violent pain in the head, chiefly in the left temporal region, accompanied by febrile symptoms. The day previously she received a violent blow on the head during a scuffle; she was thrown down, her head struck against the floor, and subsequently against the wall: a similar, but less severe assault was repeated a few minutes afterwards. Upon examination there was a fulness of outline and a puffiness of the temporal muscle. The symptoms of cerebral irritation and fever rapidly increased, a large abscess formed beneath the temporal muscle, discharge took place from the ear, coma ensued, and death occurred twenty-two days after the injury.

The pericranium was found separated from the squamous bone by purulent matter; the dura mater lining the squamous bone and covering the upper walls of the tympanum was thicker than natural, but slightly adherent to the bone: at its inner surface the arachnoid and a portion of cerebral matter were attached. In the cavity of the right middle cerebral lobe was an abscess containing four ounces of pus. The petrous bone was diseased. The membranous meatus was thicker than natural, its free surface was smooth, and presented no appearance of ulceration. The superior and posterior osseous walls of the meatus were rough, an appearance produced by the presence of new bone, which was also found to extend upwards over the outer surface of the squamous bone, over a surface measuring half an inch in its vertical, and an inch in its antero-posterior diameter. The posterior two-thirds of the membrana tympani were absent, the mucous membrane of the tympanum was healthy; the tympanic cavity was free from disease, except at its upper wall, which was composed of a layer of new bone, above which was the original superior wall of the tympanum, extremely thin, and presenting at parts worm-eaten orifices; new bone was also deposited on the inner surface of the squamous bone. The dura mater was thick, and separated from the bone by purulent matter; to its upper surface the visceral arachnoid and substance of the brain were adherent.

Mr. Toynbee concluded that this was a case of disease of a character similar to the one previously noticed, that it originated in the first year of life in catarrhal inflammation of the dermoid layer of the meatus; that the superior osseous walls of the meatus and outer surface of the squamous bone had become carious; that death not having ensued, vigorous efforts were subsequently made by a deposit of new bone to repair the injury, but not before the dura mater had been seriously affected, and an abscess developed in the interior of the brain; the state of the upper wall of the tympanum being accounted for, not from disease previously existing in that cavity, for the mucous membrane was healthy, but from its upper wall, now in a diseased state, having formed the upper wall of the meatus externus in the first year of life, and at that period having become carious. Mr. Toynbee believed that the active symptoms were only brought into operation by the injuries the patient sustained, and that the disease pre-existed.

Especial attention was called to those specimens on account of their forming the exceptions to the general rule laid down by Mr. Toynbee, that disease in the external auditory meatus gives rise to affections of the cerebellum, and not of the cerebrum.

Also a specimen of

Abscess in the Cerebrum and Ulceration of the Dura Mater, originating in Disease of the Tympanic Cavity.

An adult, who had been subject to discharge from the right ear for twenty years, was suddenly seized with pain, which extended over the whole of the head, accompanied by symptoms of general fever. At the end of fourteen days these symptoms much increased, and they were followed by stertorous breathing, insensibility, and death, eighteen days after the appearance of the acute symptoms.

A large abscess was found in the substance of the right middle lobe of the cerebrum; the dura mater covering the upper surface of the corresponding petrous bone was ulcerated; the upper wall of the tympanum was carious, and presented orifices.

MR. CÆSAR HAWKINS exhibited a specimen of

Disease of the Elbow-Joint, and Secondary Inflammation following a Burn.

The patient, a man about 45 years of age, fell from a ladder against a stove, and being probably stunned by the fall, his elbow rested against the door long enough to burn the parts over the olecranon in a very unusual degree, so that, when admitted into St. George's Hospital five weeks afterwards, the slough still adhered to the periosteum of the bone, which was laid bare, and hence the rare circumstance of the burn having occasioned the entire destruction of the joint. There was much cellular inflammation of the arm, which subsided after incision, having the characteristic swelling around the diseased elbow-joint; he was weak, but without any rigor or perspiration indicative of the absorption of matter, which was nevertheless shown by the occurrence of the yellow complexion of this poison, by pain in the left pleura and peritoneum, to a slight extent a few days after his admission, and by the prostration which similar affections of the peritoneum produces, and he died nine days after he came into the hospital, the mildness of the constitutional symptoms depending probably on the small quantity of poison which had entered the blood.

There was a small quantity of serum in each pleura, with masses of recent lymph at the lower part of the left one, and the left lung was inflamed and altered by purulent secretions, so as to present the usual appearance of grey hepatisation; a portion of the uninflamed right lung was brought to show the contrast between the two sides. There was also a small quantity of serum in the pericardium. The pelvic portions of the peritoneum contained a considerable amount of solid lymph, part of which was filled with serum, giving it a gelatinous appearance; the rest of the peritoneum was scarcely more vascular than natural.

Some of the superficial veins of the arm were obliterated by the inflammation, and some portions of the muscles and other soft parts near the elbow were shown nearly gangrenous around the vessels and nerves: abscesses led in several directions through them into the joint, which was exhibited, having scarcely a vestige of cartilage left on either of the bones which enter into its formation.

MR. WOOD exhibited a

Heart and Pericardium,

in which unusually large deposits of bony matter had taken place. These were deposited in three large masses between and connecting the heart and pericardium, the principal one being at the point where the organ rests on the diaphragm. This was, at least, five inches wide by one and a half broad, extending around the organ like an imperfect ring; the others were of an irregular square form, measuring an inch or so each way. The pericardium was very firmly adherent opposite the deposits, much less so towards the apex, which was easily separated by the fingers from the cellular adhesions of its pericardial covering. The muscular substance of the heart about the longitudinal septum was covered with a layer of fat about two lines thick. The parietes of the right ventricles were of normal thickness, but the left were somewhat thinner. Those of the auricles were much thickened, especially on the right side. The left ventricles were slightly dilated; the left auricle more so; the right auricle was large enough to contain a large sized orange. The osseous masses projected in various places into the substance of the heart. In some places these projections could be turned out of the depressions formed by them in the muscular tissue, and presented a more osseous structure than in other parts. Beneath the ventricular division of the mitral valve was a projection connected with the larger mass, but consisting of an elastic resisting substance, like cartilage imperfectly ossified. It formed a smooth distinct prominence covered by the lining cardiac membrane, and prevented the complete shutting back of the valve against the ventricle. Both the auriculo-ventricular openings were enlarged, especially the right one, the valves being unable to close it by a considerable space. The valves were not thickened.

The earthy substance effervesced considerably with acetic acid. Fat cells, crystalline and amorphous particles, were evident under the microscope, but no regular osseous formation. No disease of the arteries or of the lungs was found.

The preparation was from a woman, æt. 36, excessively fat, and dropsical. The veins of the head and neck were greatly distended, and the lungs dark and congested.

Also a specimen of

Fibrous Tumor,

growing from the external wall of the cavernous sinus, from a man, æt. 28. No symptoms of cerebral disease were observed nor collected from his history. The tumor was roundish, and had a small lobule on its upper surface, and projected into the substance of the middle cerebral hemisphere, which seemed to be slightly softened around it. Under the microscope it showed a simple and distinct fibrous character, with considerable vascularity in the interior, supplied from the arteries of the cavernous sinus. The nerves proceeding to the orbit were involved in the base of the tumor, and the Casserian ganglion, on which it rested, appeared to be slightly flattened out.

Mr. Holthouse exhibited a specimen of

Fungous Disease of the Bladder,

from a man, æt. 70, who had long suffered extreme pain and irritability of the bladder, not being able to retain above six or eight drachms of urine at a time: this was voided very frequently, and with an increase of his sufferings. For some months before his death blood passed with the urine, at times in large quantities. The bladder was small and contracted, but its coats, except at the diseased part, were not thickened: that portion of it which corresponds with the "trigone" was occupied by an irregular fungous mass, which rose but little above the surface, and, except from the presence of small ecchymoses here and there, did not differ in colour from the rest of the mucous surface. Externally, this portion of the bladder was adherent to the rectum. No disease of the prostate gland. The kidneys contained numerous cysts, varying in size from a pin's head to a walnut: some of these contained a clear limpid fluid. The left kidney contained but little of its normal structure. The right was large, and firmly imbedded in its position by inflammatory adhesions.

Also a

Blighted Ovum,

removed from a woman in labour with her seventh child. The presentation was placental, and was attended with alarming hæmorrhage. The patient was safely delivered of a full-grown living child. On exploring the uterus afterwards, there was found attached to its fundus a flattened mass, with membranes; it measured from two to three inches in diameter, and was three-quarters of an inch in thickness. On one side a fatty deposit was observed, while in the other were distinct traces of the spine and ribs of a fœtus about two inches long.

This flattened mass was called by writers "a blighted ovum," and its formation was thus explained:—Two ova became impregnated, and passed into the uterus; but, from some accident or other occurring during pregnancy, one of these ova died. Such an event happening under ordinary circumstances would be followed by abortion; but two ova being in the womb, the dead one is retained for the sake of the living, and gestation is continued to the full period. The flattened appearance of these fœtuses results simply from the pressure to which they are subjected between the walls of the uterus and the membranes containing the living fœtus.

Dr. Ogier Ward exhibited the

Thymus Gland,

from a child, æt. 17 months, who had only cut one tooth, and had been affected with pertussis about a fortnight, attended with laryngismus stridulus, and died suddenly in a convulsion, with symptoms of asphyxia.

Examination.—Considerable effusion under arachnoid and in the ventricles. Congestion of the pia mater. Points of bright red fluid blood exuded from the cut surfaces of the brain. Lower lobe of left lung much congested with blood; parallel to the diaphragm. Lowest lobe of right lung generally congested, but without any decided line of demarcation. Thyroid, bronchial, and thymus glands enlarged, particularly the left lobe of the last. Trachea obstructed by thick reddish mucous membrane, slightly reddened. Heart normal. Blood fluid.

Mr. Avery exhibited a

Tumor of the Breast,

returning after twelve years, in a woman, æt. 49. Twelve years ago, a tumor as large as an egg was removed from the same situation, since which she continued in good health till five months ago, when she observed in her breast a swelling about the size of a walnut. The use of iodine increased the pain which she felt, particularly when she used her arm much. When Mr. Avery first saw the swelling it was as large as an egg, lobulated, not very hard or heavy, to a certain extent circumscribed; but, being buried in an abundant mass of fat, it was difficult to ascertain its precise physical character. It was attached pretty firmly to the outside of the mammary gland, which, as well as the nipple, was normal. The account received of the tumor previously removed was that it was scirrhous. There were enough doubts about its nature after a return of twelve years to make Mr. Avery doubt the correctness of that opinion, and it was determined to cut into the tumor before its removal. Not finding it malignant, the operation was limited to its excision without the surrounding tissues. It proved afterwards that the gentleman who first operated on the tumor had removed two tumors on the same day, and sent Mr. Avery the account of the wrong case. The present subject had really been affected with a growth of a cystic character. The examination of the tumor microscopically, by Mr. Avery, Dr. Quain, and Mr. Quekett, nearly accorded in all external particulars with that of Mr. Birkett, whose description of it is added.

The growth, of an oval figure, measured 3 inches by 2 in diameter, and only about 1½ inch in thickness.

One surface (supposed to be the cut surface), generally smooth, exhibited here and there cells or alveoli, in which were minutely lobulated growths attached by peduncles.

The other surface had much adipose tissue attached to it, and one-half of it appeared to be occupied by the remains of a fibrous cyst. In this cyst or large cavity might be seen the intra-cystic growths, which were pedunculated, and, at their free edges, crenated.

These intra-cystic growths are only noticed at one surface of the cyst, and separated from each other by fibrous septa. A horizontal section of the new growth immediately exhibited its characteristics—namely, small pits or alveoli more or less filled up with pedunculated lobulated masses, and having fibrous septa interposed.

The peculiarities of the growth are its figure, its condensed fibrous structure, its minute alveoli, and the fluid contained therein.

The viscid intra-alveolar fluid consisted of nucleated cells, of remarkable uniformity in figure, aspect, and dimensions: in fact, it appeared to be composed of formative nucleated cells, only coherent either by themselves or by some tenacious blastema. Some of these nucleated bodies assumed the character of the cylindrical epithelium; others were fully charged with the minute oil globules, giving them the well-known dark appearance.

The intra-alveolar growths were composed of a delicate fibre-tissue, arranged in the ordinary radiating form peculiar to these developments; and in the centre of them might be demonstrated, although with difficulty, a mass of epithelium. These were imperfectly developed cæcal terminations.

The new growth belongs, in every point of view, to the class *cysto-sarcoma*, but exhibits in a most remarkable degree the close affinity of such growths with the "*chronic mammary tumors*" of the older morbid anatomists. Indeed, had the development of the intra-alveolar fluid advanced further, and had the alveoli been thereby filled up, the growth would then have been denominated "fibrous tumor," or "chronic mammary."

MEDICAL SOCIETY OF LONDON.

President—Dr. Murphy.

March 29, 1851.

Treatment of Ulcer of the Os Uteri by Nitrate of Silver.

Dr. Ogier Ward begged to lay before the Society the result of the treatment of a "*Granulated Ulcer of the Os Uteri*" by Nitrate of Silver.

The patient was married, æt. 27, mother of three children, generally regular in her menstruation. Last December the breast and abdomen began to enlarge, and other symptoms of impregnation appeared.

Examination by the speculum and with the finger revealed the real state of matters: the caustic was applied, all discomforts ceased, and beyond a slight return of the leucorrhœa the patient perfectly recovered.

Functional Disease of the Uterus.

Dr. Snow Beck gave the minute details of a case of "*Chronic Inflammation of the Uterus.*" The patient was a virgin, æt. 26.

The author particularly described the precise spot of every pain complained of. Some beautiful drawings, as well as wet preparations of the uterine nerves, were exhibited. The connection of the vaginal and uterine nerves respectively with the different sections of the spinal system was demonstrated, in order to explain the occurrence of the pains at the particular spots at which they were experienced.

Dr. Beck being opposed to the employment of the speculum, had treated this case by means of the hip-bath, local application of leeches, and mild antiphlogistic remedies with alterative doses of blue pill combined with hyoscyamus, directing the injection of lead lotions, and had succeeded in restoring the patient to health.

Mr. Acton exhibited some beautiful drawings, illustrative of congestion of the os uteri, and ulceration of the same part. He had, from extensive experience and close observation, arrived at the conclusion that the pains described by patients of both sexes, suffering from irritation of the genito-urinary organs, were identical. He did not believe, in so-called spermatorrhœa, that the explanation given by Lallemand was the correct one,—namely, that the symptoms were referrible to a loss of semen only.

Dr. R. Quain eulogised Dr. Beck's paper. In support of the opinion advanced, he described, *seriatim*, the locality of the pains which are felt by patients suffering from disease of the mucous membrance of each organ of the body, and explained, upon the principle enunciated by Dr. Beck, the cause of each pain having its particular locality.

Dr. Wagstaffe and Mr. Barnes joined in the discussion.

April 5, 1851.

Hydatids of the Womb.

A Fellow of the Society related a case of Hydatids of the Womb, occurring in a female twenty-five years of age, who had previously had two children. She was in good health until January, 1851, when she ceased menstruating, and supposed herself pregnant, but after three months a large lump of hydatids was expelled, varying in size from a pea to a small walnut. The patient is now convalescent.

New Operation on the Foot.

Mr. T. Wakley read a paper on a new operation lately put in practice by him. It consists in dissecting out the astragalus and os calcis, and leaving the other tarsal and metatarsal bones undisturbed, and is intended in certain cases as a substitute for Syme's or Chopart's operations.

The author remarked that excision of joints was first attempted by Mr. Parkes, of Liverpool, in the year 1782, who had one successful case of excision of the knee-joint in a seafaring man, who was able to follow his calling nearly as well after the operation as before. Another patient operated on by Mr. Parkes died. Excision of the elbow-joint was performed three times in France in the same year with complete success: one of those operated upon was afterwards enabled to thrash wheat. Mr. Wakley then made some remarks on the process of anchylosis sometimes performed by nature in cases of diseased joints, and considered this an argument for the operation of excision; still, he remarked that the constitutional effect of this operation was more severe than that produced by amputation, and therefore it could not be performed with safety when the powers of the system were at a very low ebb. He considered the operation justifiable if the constitution be good, if performed in time, and with the necessary surgical skill. When the arm was operated upon our object should be to preserve the mobility of the elbow-joint, but in the lower extremity, when more firmness was requisite, anchylosis was the best result that could be obtained. The ankle-joint is generally considered as best adapted to the operation of excision, but Mr. Wakley in some cases preferred it to Chopart's or Syme's operation.

The author then remarked on the necessity of preserving, if possible, the anterior tibial and other arteries supplying the foot, so as to keep up its nutrition, and also upon the delicate dissection necessary to effect this object. Mr. Wakley then gave a short account of the case in which he had first performed this operation. The patient, a young man, of dark complexion and scrofulous habit, and whose occupation required a good deal of walking, had an open abscess just under the ankle-joint for two years; he then had the misfortune to sprain his ankle, and was admitted into St. George's Hospital: he was afterwards sent to Margate Hospital, when a piece of carious bone came away. He then became much better, and was enabled to return again to his work, but only for a month, after which period he was admitted into Brighton Hospital, where amputation at the ankle-joint was proposed; but to this operation the patient refused to submit, and he left accordingly. He was then admitted into the Royal Free Hospital, London, under the care of Mr. T. Wakley. On his admission Dec. 21, 1847, the integument all around the heel and ankle-joint was much discoloured and unhealthy in appearance, with three openings, two communicating with the astragalus, and one with the os calcis. On introducing a probe, rough bone could be detected; there was also a good deal of constitutional disturbance, and symptoms of hectic had appeared. Mr. T. Wakley, finding that the patient steadily opposed the removal of the foot, and having satisfied himself that the disease was confined to the os calcis and astragalus, proposed the removal of the two bones, to which the patient consented. The operation was performed on Dec. 27, 1847. The os calcis, astragalus, and the malleolar processes being removed, the posterior artery alone required tying; the wound healed kindly, and chiefly by the adhesive process: the man was then sent into the country, and soon regained his flesh, and is now in good health, with a tolerably useful limb, and without any appearance of the disease in any other part: both bones were so carious that they were mere shells.

Mr. Smith quite agreed that this had been a most successful operation, to which he had at first been opposed, as, although more than three years had elapsed, no reappearance of the disease had taken place.

Mr. **B. Childs**, who did not arrive until the paper was nearly concluded, did not consider Mr. T. Wakley's operation a new one; it was only a modification of a principle long recognized by surgeons, viz., that we should always in our operations spare as much as possible of the human frame: he considered the chief merit and difficulty of the case consisted in the diagnosis.

Mr. **Clark** remarked on the impropriety of a member making observations on a paper which he had not heard, and also observed, that Mr. Wakley did not claim to himself the discovery of a new principle, but only an adaptation of the old-established one mentioned by Mr. B. Childs: he considered this operation might as fairly be called after the name of the inventor as those known by the names of Chopart's and Syme's operation were after their respective inventors.

Mr. **E. Canton** thought that in the paper sufficient attention had not been paid to diagnosis of whether these were the only bones diseased; thought Mr. Wakley fully entitled to give his name to the operation, though the point for inquiry was—Is this operation better than Syme's and why?

Mr. **Gay** said, that Mr. Wakley's patient could now go up a ladder, &c., and the tendo-achillis had so attached itself to the structure of the foot, that the gastrocnemius and solens had pretty complete control over its motions; thought that where the disease was limited and the constitution good, that this operation was sometimes preferable to Syme's; but as, in Mr. Wakley's operation, the convalescence was more tedious, and greater powers of reparation were necessary, thought Mr. Syme best where there was much debility, although in the latter operation there was often a tendency to sloughing of the flap. Mr. Gay did not consider that a joint or bone in the neighbourhood of another diseased bone was necessarily diseased also. He related a case in which, about three weeks ago, he had removed the os calcis, and found the surface of the astragalus quite denuded of cartilage; he did not, however, interfere with it, and although the youth was at the time of the operation in a very bad state of health, he is now rapidly recovering, with every prospect of a permanent cure.

Mr. **Wakley** in reply said, that he was not desirous that the operation should be called after him; had brought the case forward for the general good, and not for his own personal aggrandizement; thought this operation was only to be performed when the os calcis and astragalus were alone diseased. He could not agree with Mr. Gay, but thought that all the parts implicated by the disease should be removed.

ACADEMY OF MEDICINE, PARIS.

March 25, 1851.

Signs of Apparent Death.

M. **Girbal**, member of the clinical department in the Faculty of Medicine of Montpellier, transmitted a notice of the case of a young woman, who, as the result of various accidents, *e. g.* hæmoptysis, spasms, syncope, following on suppression of the menses, was suddenly considered by her attendants to be dead. M. Girbal was called to her several hours after they had thought life extinct. Of the signs of death which M. Girbal states to have been present, he noticed flaccidity of the eye-balls, paleness and hollowness of the cheeks, entire want of motion and sensation, absence of the pulse, and coldness of the surface. Lastly, auscultation of the præcordial region could detect no movement of the heart during one or two minutes; not the slightest action of the diaphragm could be detected. Ammonia applied to the nostrils, frictions, and the application of a large sinapism to the region of the heart, produced no apparent effect. Nevertheless, this young woman, in the course of half an hour afterwards, was perfectly alive again. From this case the author inferred the insufficiency of the direct signs of death, the efficacy of strong excitants in such cases, the danger of interment where death is not incontrovertibly ascertained, and the imperative necessity of the appointment of medical officers to ascertain the fact of death.

New Instruments.

M. **Blatin** transmitted a description of a caoutchouc syphon which he had contrived for the purpose of maintaining a continuous or occasional flow of water.

M. **Leroy d'Etiolles** submitted a scarificator for the division of strictures of the urethra.

M. **Hervez de Chegoin** read a report upon M. Poullien's elastic belts and stockings.

Therapeutic Properties of Sulphate of Cadmium.

M. **Grimand** read an essay, in which he stated that, over and above its emetic properties, the sulphate of cadmium possesses specific anti-syphilitic properties at least as efficient as those of corrosive sublimate. In rheumatism also, and gout, M. Grimand claimed for this remedy the utmost efficacy, as also for a host of other internal and external maladies. He regarded it as equal to tartrate of antimony in pneumonia, and capable, when applied externally as an ointment, of producing pustules of the same character. Lastly, it was said to possess antiseptic properties, and to be suited for preserving flesh or for embalming.

⁂ Verily, M. Grimand has discovered a panacea!

On Involuntary Seminal Emissions, and their relation to Insanity.

M. **Lisle** read an essay founded on seven cases of insanity having in common the circumstance of involuntary seminal emissions, existing for several years, and being the sole cause of the physical and mental derangement of the health. M. Lisle detailed the same symptoms as those which have been already so well described by M. Lallemand; pointing out that seminal emissions exert a great influence upon the nervous system, and are a frequent cause of insanity, at the same time that they impress upon this affection a peculiar character; also that this form of insanity is intractable except under treatment directed to the seminal emissions.

SURGICAL SOCIETY OF PARIS.

March 26, 1851.

Hydrorachis—Injection—Cure.

M. **Chassaignac** exhibited to the Society an infant, five months of age, presenting, at the lower part of the vertebral column, the traces of *spina bifida* that had been cured. The following is a short history of the case:—The infant was extremely feeble; the tumor was of the size of an egg, and had its greatest length vertically; it was very moveable, slightly pediculated, having the appearance of a cyst, presenting fluctuation, transparent, the integuments very thin. The tumor became extremely distended when the child cried. Pressure made upon it caused convulsive movements of the lower extremities. M. Chassaignac determined to attempt to save the child's life by injecting the cyst with iodine. He first made a puncture with an ordinary trochar, when two spoonfuls of lemon-coloured serum escaped. After the sac was thus opened, the probable point of communication with the spinal canal was detected. A weak solution of iodine in water was injected into the cavity, and retained during one minute in contact with its internal surface. The sac was then emptied as completely as possible, and equably compressed by strips of diachylon.

The operation was well borne; no convulsive movements followed; they however recurred a few days afterwards. The symptoms all returned, and the condition of the child seemed desperate. The tumor had reappeared, and remained during fifteen days in the same state as before. It then began to diminish in size, and gradually disappeared. The skin was shrivelled over the part. The deficiency of the sacrum could be felt. The health of the child was completely established.

The dangers of this operation, and the probability of a return of the disease, were dwelt upon in the discussion which followed, wherein also it was observed by M. Guersant, that months must elapse before the cure can be regarded as perfect.

Hospital and Infirmary Reports.

CLINIQUE DES DÉPARTEMENS.

Ileus—Instantaneous Cure by the employment of Mayor's Hammer. Under the care of Dr. **Hervieux.**

Every one is acquainted with the array of means which have been proposed for the cure of the iliac passion. Still better does every one know the impotence of those means to subdue this disease—so much so, that many physicians have preferred the use of the most desperate measures to a fatal inaction. Heers, Zacutus Lusitanus, and F. Hoffmann, proposed the ingestion of metallic mercury, leaden balls, &c. Proxagoras and Paul Barbetti had recourse to gastrotomy, and more recently MM. Langier and Maisonneuve have proposed the operation of the formation of artificial anus. The unfortunate results of all these more or less cruel modes of practice have not supplied any sufficient means of combating so formidable a malady. The publication of the success which has attended the use of the hammer of Mayor, in an extreme case of ileus, places in the hands of practitioners a means, if not infallible, at least more certain and less dangerous than those hitherto proposed.

CASE.—A peasant of Saussaye, Canton of Elbeuf, about thirty years of age, was suddenly attacked, in the afternoon of October 24th, 1850, with most acute pains in the abdomen, followed by nausea, eructations, and vomiting. He had been in perfect health in the morning. The abdomen was soft, and no rupture existed. The patient pointed out a spot near the umbilicus where the pains attained their maximum intensity, and whence they irradiated towards the pelvis. Various means were unavailingly employed to relieve the agonising sufferings, which were distressing to behold. The symptoms rapidly got worse; the vomiting became stercoraceous. Three days and nights were passed without sleep or cessation of pain, and without the retention of any nourishment on the stomach. On the evening of the 28th Oct., determined to make one last effort, Dr. Hervieux summoned the aid of Dr. Justin, and placed the patient under the influence of ether. The relief which followed lasted only a quarter of an hour, and the feebleness of the pulse restrained a second exhibition, lest the patient should have died under its exhibition. At this moment the thought occurred of trying Mayor's hammer. Four applications were made at the point where greatest pain was experienced: each application was not less than for a minute. Instead of confining himself to the application of the hammer moistened in boiling water, some force was used in applying the hammer on the abdominal surface, so that it might possibly exert some direct action on the viscera. The pain that was caused was so great that it required several persons to hold him during the operation. This pain was, however, quickly followed by an indescribable sensation of relief. At the expiration of some minutes there was an escape of gas from the intestines, which seemed to be the re-establishment of the intestinal circulation. This escape of gas became more considerable, and was followed by an abundant stool, proving that the obstacle was removed. On the following day the patient was quite well, and asking for food.

It is doubtful, Dr. Hervieux observes, if any other case be on record of a remedy so manifest, instantaneous, and permanent, especially by means so harmless and accessible.

Medical Intelligence.

THE GREAT WILL CASE.

Bainbrigge v. Bainbrigge.

THE long contested and important will case of Bainbrigge *v.* Bainbrigge, involving property to the amount of £100,000, which was tried before Lord Campbell, at Stafford Assizes, last year, was finally decided on Monday last. Our readers will recollect that the will was set aside on the ground of insanity. A new trial was moved for and granted, and Mr. Justice Patteson appointed Monday the 8th for the hearing of the case. The Attorney-General Sir C. Cockburn, and Sir F. Kelly, were both retained for plaintiff and defendant. It is said that the Attorney-General's fee was 500 guineas! Before the opening of the Court on Monday, a suggestion was made for a compromise. Sir C. Cockburn and Sir F. Kelly arranged the matter to the satisfaction, we believe, of all parties. A verdict was agreed to, the will was set aside on the plea of insanity, and Mr. Bainbrigge, the surgeon, of Liverpool, takes immediate possession of the estate. The only men who were subpœnaed to watch the evidence with a view of being examined as to the insanity of the testator, were Dr. Forbes Winslow and Dr. Conolly. Both these physicians left town for Stafford, by the express train, on Monday morning to attend the trial.

THE MANCHESTER MEDICAL ASSOCIATION AND THE NEW RESOLUTIONS OF THE COLLEGE OF SURGEONS.

To the Right Honourable Sir George Grey, Bart., Her Majesty's Principal Secretary of State for the Home Department.

SIR,—On behalf of the Deputation of Provincial Surgeons, to whom you accorded an interview on the 2nd of May last, the undersigned respectfully memorialize you on the subject of certain resolutions adopted by the Council of the Royal College of Surgeons of England on the 19th and 24th of last month; resolutions to which the Council request your sanction, in reference to further alterations deemed necessary in the Charters and Bye-laws of the College.

The Memorialists recognise, with the greatest pleasure, the liberal and conciliatory spirit of this proceeding of the Council, and now entertain the fullest confidence, that the difficulties which have hitherto obstructed all attempts at Medical legislation may readily be overcome.

Your attention is earnestly solicited once more to the propositions affecting the

College of Surgeons, which the Deputation had the honour of submitting to you, on the occasion of their interview.

The Memorialists respectfully urge upon you that an unqualified adoption of the propositions in question, would equitably and satisfactorily adjust the differences that of late have subsisted between the Council and the Members of the College. In fact, with the exception of two points, the recent resolutions, in conjunction with those previously adopted on the 23rd April, 1851, concede what has been solicited.

A membership of fifteen, instead of twenty years, as a preliminary qualification for admission to the Fellowship, on the part of those who were Members prior to the grant of the Charter of 1843, and an abolition of the fee of ten guineas,—the requirement of which would indicate an invidious distinction between the already nominated Fellows, and those to be admitted hereafter,—would, the Memorialists are assured, unite the entire body of the College in approval of the heads of a Charter that would facilitate and render practicable a general measure of Medical legislation, which, in satisfying and elevating the profession, would correspond with the exigencies and the requirements of the community at large.

We have the honour to be, Sir,
Your obedient servants,
W. Watson Beever, Chairman.

Peploe Cartwright, Oswestry,
George Southam, Manchester,
S. A. Philbrich, Colchester,
Hon. Secs.

THE MEDICAL PROFESSION IN RUSSIA.

According to the annual list published Jan. 1, 1851, there were, in the Russian Empire, 7957 physicians having the right to practise; 552 vétérinaires; 132 oculists, dentists, and other individuals having the right to practise under certain restrictions; 714 pharmaciens—77 in the capital, 150 in the government towns, 487 in the provinces. In that country, where every thing is under military rule, the number of prescriptions (*ordonnances ou recettes*) compounded by the pharmaciens during the year has also been carefully recorded; *scil.* 692 pharmaciens received during the year 8,024,021 prescriptions, divided as follows—15,171 in the capitals, 6,174 in the government towns, 1,843 for the districts.

Siberia, and the eastern governments of the Empire, count but 19 civil practitioners. This number is so insufficient that it has been necessary to enact that the students of a certain university shall be obliged to practise for a limited period in those countries.

The number of patients admitted into the government hospitals during the past year were 737,442. 609,564 were reported as cured, and 91,545 died; giving a mortality of 1 in 13. X

QUICKSILVER MINES IN CALIFORNIA.

It is very generally known that quicksilver mines have been worked to some extent for many years in California, but until the discovery of gold little attention had been bestowed upon them. The principal mines in California are the Guadalupe and New Almaden: they are situated in the same neighbourhood, four miles distant from each other. These mines are about eight miles distant from San Jose, and can be reached by a good road at all seasons of the year. It is said that the mines are now worked extensively, the produce amounting to several millions of dollars the present season, and that the yield from the ore is almost past belief. 85 per cent. of pure mercury is not an uncommon yield.

SUBSIDENCE OF THE CHOLERA IN JAMAICA.

Accounts from Kingston, Jamaica, to the 14th ult., state that the cholera was fast disappearing from the island. The north side papers have not recorded a single case as occurring in that part of the country, although the disease had appeared in the mountains of Westmorland.

EXPENSES OF INQUESTS IN MIDDLESEX.

At a late meeting of Middlesex magistrates, a report was read, which stated that the accounts of the several coroners had undergone minute investigation, and that the committee had felt it requisite to deduct the charges and fees upon two inquisitions held by Mr. Baker, as those inquiries they found had been unnecessarily taken. The committee had also made a similar deduction on an inquisition which had been taken by Mr. Bedford.

The report then proceeded to say that for the year 1850 there had been, as compared with the year 1849, 506 fewer inquests held, and that there had therefore been a saving to the county of £1,329. 6s. 6d. The following accounts were recommended to be paid:—To Mr. Wakley, for 265 inquisitions held between the 13th of November, 1850, and the 8th of February, 1851, £859. 13s. 11d.; to Mr. Baker, for 100 inquisitions held between the 1st of January and the 13th of February, 1851, £305. 10s. 4d.; to Mr. Higgs, for four inquisitions held within the precincts of the Duchy of Lancaster, £20. 18s.; and to Mr. Bedford, for 73 inquisitions held in the city of Westminster, £221. 4s. 4d.

ST. GEORGE'S HOSPITAL.

A general court of the governors of the above institution was recently held in the board-room for the purpose of receiving the report of the financial condition of the hospital during the past year, and on general business. The minutes of the last quarterly court having been confirmed, the financial report was presented. The balance in hand on the 31st of December, 1849, was £805. 4s. 9d. The annual subscriptions amounted to £3,367. 14s. 10d.; and the life subscriptions to £255. The dividends were £2,378. 18s. 2d.; and these sums, added to the receipts from pupils, benefactions, and legacies, gave a total ordinary income of £6,937. 4s. 4d. The sale of stock during the year realized £7601. 17s. 11d. and £111. 8s. 4d. had been received from the Sun and Westminster Fire Insurance offices, for damages done by the late fire at the hospital. The total receipts for the year amounted to £15,506. 14s. The receipts on behalf of the convalescent fund £255. 17s. 7d. The expenses of the establishment for the year, £12,199. 6s. 4d., and £2250 had been paid on account of building contracts and architect's commission. £352. 9s. 8d. had been paid to answer special claims; making the expenditure £15,071. 16s., and leaving a balance of £434. 18s. in favour of the charity. This statement was received; and, after the transaction of some routine business, the board separated.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted Members on the 4th instant:—Messrs. E. Sullivan — H. C. Brakyn—H. W. Bucknill—Z. S. Shillingford—E. S. Wason—J. G. Russell—H. Seatle—T. H. Cresswell—S. J. .F Stafford —G. W. Sanderson—G. J. Mitchinson— W. D. Haye—J. W. Tracy.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 3rd April, 1851:—Thomas Fuller, Brighton; Henry Maund, Bromsgrove; Aynott John James Chitty, Mere, Wilts; Osborne Johnson, Beckington, Lincolnshire; William Morris, Petworth, Sussex; Frederick John Money, Offham, Kent; George William Nichols, Darwen, Lancashire; Samuel Wall Jones, Ludlow, Salop; Frederick Moore Smith, Great Hadham, Herts; Edward Mercer, Uxbridge; William Henry Gatty, Market Harborough; Thomas Abbey Bottomley, Huddersfield; Francis Cornelius Webb, East Stonehouse, Devon; John Daniel Ranson, St. Ives, Hunts.

POISONOUS EFFECTS FROM USING NEW EARTHENWARE.

A somewhat singular, though not unaccountable occurrence, took place in the family of a gentleman in one of our neighbouring towns a short time since. It appears there was a large number of the gentleman's family and connections present to partake of a Thanksgiving-dinner, numbering in all twenty-three persons. The usual variety served on such occasions covered the banquet-board, and the party partook of it with the proper relish. Twenty of this party remained over night, and took breakfast with their host the ensuing morning. A large chicken pie, which had not been touched the day before, was served out to them at this time. In a few hours after, seventeen of them were violently attacked with severe griping pains in the bowels, accompanied with profuse diarrhœa. It appeared, from investigation, that *only those who ate of the pie* were the persons who suffered. The lady of the house having made it herself, and partaken freely of it, suffering alike with the rest, of course removed all suspicion of intentional poisoning. The query now is, what was there in this *pie*, or about it, that should produce these effects? The pie was baked in a yellow earthen glazed dish that had never been used before; and the conclusion necessarily is, that its contents became impregnated with portions of the enamel with which it was lined, and hence the consequences. Now the enamel used by potters varies in composition according to the purposes for which the ware is intended. They all, we believe, contain more or less lead, cobalt, &c. Often the biscuit, as it is called, is made of clay which contains poisonous matter in various proportions; and if, after the baking, the vessels are imperfectly glazed or protected, bad consequences may arise from using them. All such ware to be used in cooking, when *new*, should first be proved, and this is best done by having it greased over with lard or tallow, and then subjected to the heat of an oven. This will generally be found a sure protection. This one instance should serve as a warning to families, and is not without interest to the physician. Had the occurrence taken place during the prevalence of cholera, the sickness might have been taken for it, and with very good reasons, its symptoms and character simulating that disease. We are pleased to state that the parties entirely recovered, the majority of them only suffering five or six hours.—*Boston Journal*, January.

⁂ It may be proper to state that some descriptions of white glaze for iron vessels sold in our shops have been found to contain arsenic.

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

The Threatenings of Apoplexy and Paralysis, &c.: being the Croonian Lectures delivered at the Royal College of Physicians, March 1851. By Marshall Hall, M.D. F.R.S.

Syphilitic Eruptions, especially with reference to the use of Mercury. By Thomas Hunt, M.R.C.S.

Translation of the Pharmacopœia Londinensis. By a Physician. 1851.

The Process of Thought adapted to Words and Language, &c. By Alfred Smee, F.R.S.

The Life of the Hon. Henry Cavendish. By G. Wilson, M.D. F.R.C.S.E.

Littlemore Asylum (Oxford and Berks) Superintendent's Report, for 1850: with Statistical Tables.

Third Report of the Somerset County Lunatic Asylum. 1850.

British and Foreign Medico-Chirurgical Review. April 1851.

The Quarterly Journal of the Chemical Society. No. 13, April 1851.

London Journal of Medicine. April 1851.

Monthly Journal of Homœopathy. April 1851.

Pharmaceutical Journal. April 1851.

The Journal of Psychological Medicine. April 1851.

Edinburgh Monthly Journal of Medical Science. April 1851.

Edinburgh Medical and Surgical Journal. April 1851.

Comptes Rendus. Nos. 11 et 12; 17—24 Mars 1851.

Journal de Chimie Médicale. Avril 1851.

Zeitschrift für die gesammte Medicin. September u. October 1850.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 9 and 10; 1st—8th March, 1851.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·9
,, ,, ,, Thermometer[a]	43·5
Self-registering do.[b] .... Max. ·73	Min. 20·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·17.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 6° *below* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 5.

Births.		Deaths.	
Males....	808	Males....	571
Females..	752	Females..	479
	1560		1050

Causes of Death.

All Causes	1050
Specified Causes	1038
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	18
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	47
2. Brain, Spinal Marrow, Nerves, and Senses	123
4. Heart and Bloodvessels..........	35
5. Lungs and organs of Respiration	220
6. Stomach, Liver, &c.	65
7. Diseases of the Kidneys, &c.	13
8. Childbirth, Diseases of Uterus, &c.	3
9. Rheumatism, Diseases of Bones, Joints, &c.	4
10. Skin........................	2
11. Premature Birth	21
12. Old Age	42
13. Sudden Deaths................	11
14. Violence, Privation, Cold, &c....	31

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	9	Convulsions........	
Measles............	23	Bronchitis	
Scarlatina	6	Pneumonia	
Hooping-cough	59	Phthisis	
Diarrhœa...........	11	Lungs	
Cholera............	0	Teething	
Typhus.............	32	Stomach	
Dropsy	16	Liver..............	
Hydrocephalus	41		
Apoplexy	28	Childbirth	
Paralysis	23	Uterus	

Remarks.—The total number of deaths was 114 *below* the average mortality of the 14th week of *ten* previous years.

NOTICES TO CORRESPONDENTS.

Speculum.—A plan similar to that recommended by our correspondent is adopted by most obstetric practitioners. It is therefore unnecessary to publish the letter.

Mr. C. S. Bate's paper on the shedding of the Teeth has come to hand.

We have to acknowledge the receipt of a paper on the treatment of Prolapsus Recti from an old correspondent, Mr. Mackenzie, Surgeon of the Naval Hospital, Archangel. We will endeavour to find room for it in an early number.

We shall have great pleasure in inserting Mr. Charles Taylor's paper on Infantile Remittent Fever with as little delay as our other arrangements will permit.—The printers, Messrs. Wilson and Ogilvy, 57, Skinner Street, Snowhill, will communicate with him respecting copies.

Registration of Deaths.—Our correspondent should procure a copy of the Act of Parliament:—the 6th and 7th William IV. c. 86. The 25th section applies to the question put by the writer. It is *not* imperative on medical practitioners to give *written* statements of the causes of death, when applied to by relatives or others. The refusal would involve the person in no legal responsibility. Any medical man who was present at the death or in attendance during the last illness, is compelled by law to give information touching the cause of death, when applied to by the Registrar *within eight days* after the death of the person. This information may be given *verbally*, but it *must* be given when application is made by the Registrar, as above mentioned.

The letter of D. R., on the same subject, reached us too late for the present number.

Dr. Burke Ryan's interesting case of Poisoning with Arsenic will have early insertion.

Received.—Dr. J. B. Thompson.

Lectures.

THE GULSTONIAN LECTURES
For 1851.

Delivered at the Royal College of Physicians.

By Edward Latham Ormerod, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

Lecture III.—Part I.

IV. Symptoms and Treatment of Valvular Disease of the Heart.

Earliest evidences of valvular disease. Endocarditis, its obscurity, encouragement to its active treatment—its consequences, chronic valvular disease.

General considerations. Physiognomy of valvular disease, affected by age. Hypertrophy and dilatation, their causes, purposes, and contingent dangers—their relation to treatment. Affections of other organs—their importance—the mode of their succession—their relation to particular cardiac lesions. General principles of treatment.

Cerebral complications:—Apoplexy and softening, their relation to valvular disease—other affections—principles of their treatment.

Pulmonary:—Emphysema—pleural effusion—pulmonary obstruction as an abiding or temporary condition—mode of relief. Pathology of cerebral and pulmonary affections contrasted.

Abdominal:—Structural affections of the solid viscera—their pathological interest. Vomiting and diarrhœa, their treatment and pathology.

We have now reviewed the causes of valvular disease, the physical signs by which that disease makes its presence known, and the structural changes of the valves on which those signs depend. It remains to consider the symptoms which these valvular lesions give rise to, and, little though it be, what can be done for their relief.

Our knowledge of the symptoms of the first beginnings of valvular disease is almost confined to cases of rheumatic endocarditis. Even here, where we have learned to look for them, they are often obscure enough. And, that they rarely force themselves upon our notice unsought for, we are assured from the long time that the connection between rheumatism and endocarditis remained unknown.

The only sign of valvular disease at its commencement, in many of these cases, is an endocardial murmur. In some, however, there may be uneasiness, and even pain in the region of the heart, with increased hardness and frequency of the pulse. In others, percussion may show, besides, that the heart occupies more than its natural space, a condition which, in its occasional connection with other symptoms, and from the good effects of depletion in relieving it, may be considered as an effect of inflammation. Pain then, and swelling, or distension (if we may venture to call by one of these names the cause of the increased dulness), with the general signs of inflammatory fever, and the local auscultatory signs are the means, by some or all of which the presence of valvular disease, or, more correctly speaking, of endocarditis, may be manifested in the first instance, Endocarditis, it is true, like pericarditis, may sometimes display itself through the nervous system, in the symptoms of the most violent, even of fatal chorea.[*] It is necessary to bear in mind the possibility of the occurrence of such extreme cases. But practically, it is much less important to know how anomalous or violent the symptoms of endocarditis may sometimes be, than to be assured how obscure they usually are—how often they are entirely wanting; and this at the time when their effects are to be obviated, or if ever, to be removed.

It scarcely falls within the scope of these remarks to enter at length upon the treatment of endocarditis, or other causes of valvular disease, did either space allow, or had I anything to add to what others, and most recently, Dr. Latham, have told us. The sum of my experience may be very briefly expressed:—Of cases of rheumatic endocarditis treated in all ways, the immediate and ultimate results were better in

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[*] Clinically, cases of chorea with rheumatism should be divided into two classes. First, those coinciding with capsular rheumatism, where the articular affection is commonly slight and chronic. Second, those coinciding with fibrous rheumatism, where the articular affection is commonly very intense, and there is pericarditis or endocarditis also.

What share the rheumatism itself may have in inducing the nervous symptoms in either of these classes I could not say. I would accept the explanation, which is sometimes offered, that it acts as a blood poison, inducing organic disease of the heart, and functional disturbance of the brain, only as an expression of our ignorance, not as a solution of the question. For I have seen fatal chorea with pericarditis consequent on disease of the kidneys, independent of rheumatism. I am inclined to connect it with the cardiac affection.

Whatever share, however, carditis (using this as a general term) may have in causing the chorea, we must not hastily dismiss the consideration of its connection, in treating the disease. For the prompt recognition and treatment of the cardiac affection appears to be a very important element in ensuring a successful termination of the case. Dr. Burrows, Cerebral Circ. p. 215. See also Dr. Kirkes, Med. Gaz. vol. xlvi. pp. 1004-1049.

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those treated actively by mercury and depletion, than in those treated in any other way.* I cannot express in less vague and general terms the opinion which these cases have seemed to justify on this point of practice; and it is needless to enumerate the possible sources of fallacy which this expression may conceal, especially with regard to the ultimate effects, with which we have here chiefly to do. Only I would not withhold this testimony, however inconclusive, to the correctness of the practice inculcated by Dr. Latham, as having had large opportunities, during my connection with St. Bartholomew's, of observing its results, in the field from whence his information was derived.

The attack of acute rheumatism passes away: the acute period of endocarditis has gone by, perhaps never to return. And with it, too often, all prospect of a cure passes away. We have now no longer to deal with acute inflammation, but with its organic results, and with the chronic changes which these morbid products undergo. The treatment has no longer in view the cure of the disease, but merely the palliation of its symptoms.

The question what becomes of these patients has already been discussed on a previous occasion, on other grounds. We have here to do only with those in whom the disease goes on, from bad to worse, to destroy life at a more or less remote period.† And here all the distinctions of the causes of valvular disease cease in the consideration of the symptoms common to the secondary effects of them all.

The ways in which suffering and death may ensue in the subjects of valvular disease of the heart are various. The difference chiefly arises from the prominence which diseases of particular organs assume in the several cases. The subject naturally divides itself in correspondence with these secondary affections. But, before entering upon their examination, there are some more general conditions, of much interest and practical importance, which require a separate consideration.

I. There are few diseases but have their peculiar physiognomy.* Among the many advantages resulting from the collection of vast masses of disease at our large hospitals, must be reckoned the opportunity thus afforded of learning rapidly to recognise the external characters, literally the features, of disease. Disease of the heart, too, stamps its peculiar marks on the face. It will not be superfluous to trace what Corvisart† did not deem beneath his notice.

Many diseases communicate to the face an expression of their own, in which all distinctions of age are merged, and the child puts on the face of the old man. But it is not so with valvular disease of the heart. On the contrary, we may readily, and without any forced refinement, distinguish between the features which childhood and more advanced age respectively assume under these circumstances‡.

In children suffering from valvular disease of the heart, the faceand conjunctiva are pale and bloodless. Only, through the unusually transparent skin, small vessels may be seen ramifying over the malar eminences and the alæ of the nose, and the face becomes dusky on any exertion or emotion. The features are full, not pinched, as in most of the chronic diseases of childhood. There is no expression of anxiety. With the eyelids partly closed, and the eyes turned down, they sit, motionless, save for the constant heaving of their chests, and even of their whole bodies, with the beating of their hearts. Sad experience has taught them which posture is the freest from suffering, and this they steadily maintain, either upright, with the head leaning a little forwards on the chest, or, as the disease advances, reclining back so as to extend the trachea to the utmost: doubtless on account of the relief which they thus afford to some labouring organ. They are sensible, and intelligent often to a remarkable degree, like other children who have suffered much from sickness, and seem to take pleasure in being ausculted and made objects of attention. But as soon as they are left to themselves, their eyes fix again upon some object, and they lie looking at it without apparently noticing it, like figures in wax.'

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* I am led to this conclusion, as far as concerns the immediate effects, by comparing cases submitted to all forms of treatment during their stay in the different wards of St. Bartholomew's Hospital, or wholly neglected for an indefinite period before their admission. Of the remote effects I have less certain means of judging; none, indeed, but what chance cases, which have come under observation at a subsequent period, supply.

† From on analysis of my own cases, in about eight years. Probably an analysis of other than Hospital cases would give a much higher average.

* Dr. Corfe's Remarks on the Physiognomy of Disease, p. 71, and Dr. Hope, op. cit. p. 401, may be consulted on this subject.

† Le hazard fait tomber les yeux de Corvisart sur un portrait: à l'instant, il s'écrie: "Si le peintre a été exact l'original de ce portrait est mort d'une maladie de cœur." Corvisart avait deviné juste.—Pariset, Eloges, tome i. p. 111.

‡ The differences of the expression of patients suffering from valvular disease of the heart have appeared to most who have written on the subject capable of being reduced to two classes. Dr. Bellingham, Med. Gaz. vol. xlvi. p. [illegible] would connect them with differences in the nature of the valvular imperfections. Hope and Corvisart connect them rather with the temperament of the individual. My own observations generally agree with their conclusion, for the divisions in which youth and the lymphatic temperament respectively predominate usually coincide. But I think that, where the two divisions do not exactly coincide, the age overrules the temperament.

The expression is quite different in persons of more advanced age; it is no longer one of placid quiet, but of anxiety and pain. There are still the same constrained unnatural postures, and the same fixed yet vacant gaze, but the face is drawn and livid, the lips are blue and pinched, the cheeks are of a dusky purple, and wherever the skin is put upon the stretch by subjacent parts, vessels may be seen ramifying just beneath the surface. Commonly the skin hangs in a fold from the lower eyelid, so as to expose the dull dingy conjunctiva covering the sclerotic; bloodless, indeed, but wanting that pearly white which we see in anæmia. Much as bronchitis has to do with the sufferings of these patients, and with these particular appearances, yet attentive observation will recognise here quite a different expression to what we see in connection with that disease. There is neither the intense restless agony of the present attack, nor the passive endurance when the acute stage of bronchitis is past. But to an expression which might suit with the most urgent distress and despair, there is joined a quietude of demeanour which might betoken perfect resignation. In all the patient's distress and uneasy movements, the great object of his efforts is to maintain the most complete rest. As if it were a question whether to bear the present posture, or the wearying search after one more tolerable to his feelings, were the greater misery. "He cannot bear to be at rest, for rest brings him no relief; he seeks but in one to be freed from the feeling of another pain."*

II. The effect of valvular disease on the heart itself in producing hypertrophy or dilatation of its walls or cavities respectively, enters into the pathology of the secondary complications of valvular disease to such an extent as to require preliminary consideration. Hypertrophy and dilatation, like most scientific words in very common use, are not always applied with strict precision to the things intended to be so designated. In their ordinary acceptation, however, these terms are quite sufficient for most, as for the present purposes; the one or the other, or both, being employed as the condition thereby expressed predominates. Hypertrophy, indeed, almost always implies the co-existence of some degree of dilatation, and the converse.

Dilatation would seem to be most commonly predominant on the right side of the heart and in the auricles, essentially the feeblest parts of the organ. Hypertrophy is found most often, and manifests itself most strikingly, in the left ventricle, essentially the strongest chamber of the heart. But as disease of the pulmonary valves is as surely followed by hypertrophy of the right, as is disease of the aortic valves by that of the left ventricle, the explanation why sometimes dilatation ensues, and sometimes hypertrophy, must be sought rather in the difference of their causes than in that of the constitution of the two sides of the heart respectively. Dr. Hope says:*—

"The exciting causes of hypertrophy are equally those of dilatation; and supposing no unknown agencies to interfere, it depends on the proportion which the cause bears to the reacting energy of the cavity exposed to its influence, whether that cavity become affected with hypertrophy, with dilatation, or with a combination of the two. It may be said generally, that when congestion is *constant* in a cavity, dilatation is more commonly the result; and that when there is only resistance to the expulsion of the blood, without constant engorgement of the cavity, it is more common for hypertrophy to be produced. Contraction, for instance, of the aortic orifice, causes hypertrophy of the left ventricle in a greater degree than dilatation; whereas, patescence of that orifice, attended with regurgitation, and constant engorgement of the cavity, causes dilatation in a greater degree than hypertrophy."

Perhaps this is as near the truth as we are likely to attain, for the principle is not of very generally precise application, the causes being commonly mixed: but when an opportunity does occur of watching the effects of these causes separately, the result is agreeable to Dr. Hope's observation. Thus, emphysema and chronic bronchitis, which always cause more or less obstruction to the circulation, but on occasion for a while completely interrupt it, and cause the blood to accumulate on the right side of the heart, induce dilatation of these cavities. Granular disease of the kidney, on the contrary, where the obstruction to the circulation is tolerably uniform, and habitually surmounted, induces hypertrophy of the corresponding ventricle. It would seem, too, that hypertrophy ensues rather in the robust, dilatation in the cachectic and weakly. And, as a corollary to this, dilatation more commonly affects both sides of the heart than hypertrophy is found to do.

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* Aretæus de Tonsillarum ulceribus.

* Diseases of the Heart, 3d ed. p. 250.

In one point of view—namely, in relation to the maintenance of the circulation—hypertrophy and dilatation may be considered as conservative processes:* for, unless the heart be made strong enough to overcome the obstruction, or large enough, so that a sufficient quantity of blood shall, after allowing for regurgitation, be distributed to the different organs, the man must die, or at least be incapable of exertion. But by such means, in some cases, and supposing that the valvular lesion remains unaltered, health may be *pro tanto* restored; and thus life may be prolonged for many years, and the patient remain ignorant alike of the existence of his disease, and of the beautiful adjustment by which it is rendered imperceptible or tolerable to his feelings.

But, in other points of view, hypertrophy and dilatation must be regarded as in themselves most serious diseases. The same circumstance which gives rise to these changes of the heart's structure necessitates the continuance, and commonly the increase of them. For even supposing that the valvular lesion were always to remain the same, it is easy to see how the adjustment can only in very few cases be absolutely and permanently perfect. Apparently, the effects of sigmoid obstruction would be most remediable by these means, then those of sigmoid regurgitation, and least of all those of auriculo-ventricular regurgitation. But the fact that the valvular lesion does very rarely remain unchanged renders it quite superfluous on the present occasion to discuss that hypothetical case. Whether or no hypertrophy and dilatation must still go on increasing in any particular instance, even though the valvular lesion remain unchanged, at least they certainly do so in the vast majority of cases where the valvular lesion does not remain the same.

Mechanically, indeed, the remedy is temporarily perfect. An hypertrophied heart can sustain the contraction long enough, or impel the blood with force enough, to maintain the normal pressure beyond the stricture. Again, a dilated heart can contain blood enough to allow for regurgitation to any amount. But the cure of a diseased heart, unhappily, is not a question of mechanics; for this mechanical remedy acts more or less at the expense of the capillaries, pulmonary or systemic, against which is now made the pressure which the walls of the heart were by nature intended to bear. Hence hæmorrhage, or œdema, visceral obstructions or inflammations, under one or all of which the patient sinks.

More than this: hypertrophy and dilatation are temporary expedients to prolong life, requiring continual adaptation to the progressive alterations of the valvular lesion whose effects they are calculated to obviate. While we admire, to the fullest extent, the manner in which the heart can thus make good its own defects, and adapt itself to the altered circumstances of disease, we cannot fail to see that the resulting condition is in itself one of serious disease. They are necessary evils—necessary to support life under the circumstances, but not the less evils; for it is not in the body, as in a coarse machine, that there is merely so much work to be done: it is of the first importance how that work is done. The circulation must not merely be maintained any how, but it must be smoothly and uniformly maintained. And this is very rarely the case in valvular disease of the heart, however perfect the compensation may seem to the patient himself, or to ordinary observation. A careful examination of a patient with valvular disease of the heart, for the relief of whatever ailment he may have applied, rarely fails to disclose to the physician the existence of the cardiac lesion: and it is most commonly a morbid state of the circulation, as indicated by the pulse, the immediate consequence of hypertrophy or dilatation, which leads thus directly to the discovery of the disease.

It would be impossible to determine absolutely the limits within which these changes of the muscular substance of the heart might be considered as safe or salutary, for probably they vary much in different cases; but the limits apparently are generally very narrow, and soon passed. Obviously the condition of the heart is neither safe nor wholly salutary when it is a source of distress to the patient; and scarcely so when, as just instanced, a full, or hard, or jerking pulse, denotes to the physician the abnormal pressure which is made on different organs, or the irregularity of the supply of blood which they receive.

But even supposing that no functional derangement detectible either by the physician or the patient arises, still the patient whose circulation has to be maintained by a dilated or an hypertrophied heart, however accurate the adjustment may be, is not in a state of health. Obviously it is a very serious state of things when the pressure which should be resisted by the mitral valve—to take the commonest case—has to be supported by the delicate pulmonary capillaries, with only that amount of relief which the increase of capacity of the auricle supplies. It is life bought by disease, by sheer force—a make-shift, not a remedy. Nor yet, when the heart itself sustains the increased pressure, as in the case of sigmoid obstruction, does hypertrophy consist with perfect health; for the power of adaptation to different circumstances, wherein animal mechanism surpasses artificial contrivances, is here most sorely impaired. The power of the hypertrophied heart is indeed most accurately calculated to the mean daily requirements of the body; yet, though the adjustment be correct, and the heart's action safe for all ordinary purposes, the impulse of an hypertrophied heart under excitement cannot be regarded without apprehension. Take, for instance, such a case of aortic obstruction where the impediment is exactly counterbalanced by the increased power of the heart. It is obvious that the more the arteries are distended on the further side of the obstruction, the more forcibly will the shock of the heart's contraction be transmitted past the obstruction to distant parts. The most trivial cause, impeding for a moment the flow of blood through the jugular veins, may readily induce such a condition of the arteries leading from the heart to the brain: the more readily, the slighter the obstruction—that is to say, generally, the earlier in the disease. And when the effect of the organic obstruction at the sigmoid orifice has been thus neutralised, a few full, forcible contractions of the left ventricle may place such a patient in the most imminent danger of extravasation of blood into the substance of the brain.

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* "In speaking of what *nature intends*, it is difficult not to use language which may seem to favour some foolish hypothesis; but, in point of fact, we always must form a judgment of what nature is aiming at whenever we interfere with what nature is doing. And, as our practice is sometimes right, it is presumed that a right judgment is both attainable and sometimes attained."—Latham, Diseases of the Heart, vol. ii. p. 344.

It is our duty as physicians to prevent, as far as may be, what we cannot cure. This rule must never be absent from our minds, but must enter into all the minutiæ of the treatment of valvular disease of the heart. By enjoining rest and prudence we may delay the advance of dilatation and hypertrophy; but we cannot reasonably attempt their cure, except by removing their cause, which to a great extent is impracticable. It is worse than idle to cup and leech, and use antimony and mercury, to try to cure them, or the disease of the valves on which they depend, except so far as their existence is connected with a condition of parts or a general condition indicating the employment of such remedies. Such treatment cannot remove them; and, if it could, we must needs bring them back again, or the patient would die.

The rational indications of treatment in many such cases are satisfied rather by the use of quinine and iron* than by antiphlogistic means. For serious as are the secondary effects of increase in the strength and capacity of the ventricles on other organs, the direct effects of weakness of the heart are much more to be apprehended. It is a very imperfect view of the effects of valvular disease on the heart itself which sees only a progressive increase of its strength or capacity, and does not look forward to that period when its powers of adaptation fail, and, instead of rising to meet, the heart sinks beneath its burden.

The data are as yet wanting from which to investigate this most important practical question,—under what circumstances, namely, this state of things occurs. On the more obvious explanations, which the effects of the original size of the coronary trunks in limiting the supply of blood, or which the deteriorated quality of the imperfectly aerated blood suggest, there is as yet room for little beyond conjecture, however probable. Only let us keep clear of one fallacy. Fatty degeneration of the heart is apparently the natural termination of hypertrophy of that organ where the hypertrophy has depended on a temporary cause. But such is essentially not the case in valvular disease. The cause of the hypertrophy is rather progressively increasing than temporary. These two forms of disease of the heart—fatty degeneration and valvular disease—have little in common: their coincidence is but rare, and the mode of their connection in these rare cases quite inexplicable.

But there will be occasion to refer to this hereafter. The failure of the heart's action marks a distinct period; and, whether it be the rhythm or the power that fails, the influence that should direct, or the substance that should sustain the action—whether it supervene in the same gradual way as the hypertrophy, or in a moment fatally, it is a matter of the deepest interest. It is the last alternative awaiting those who have avoided or struggled through those complications of other organs which first demand our attention.

III. However great be the value of observations of the effect of valvular disease in inducing hypertrophy and dilatation of the heart, as a measure of the virtual amount of that disease, yet, as a rule, the duration of life under such circumstances depends more on the degree to which the various organs can assist or tolerate the impeded circulation, or the heart can accommodate itself to its altered circumstances, than on the amount of valvular imperfection. Of this degree, obviously, these changes of the muscular substance of the heart afford very inadequate indications. The grounds for prognosis are to be sought rather in the age and condition of life and constitution of the patients. Children, in whom there is scarcely any limit to the tolerance of their various organs, and in whom the principle of growth is so active, and those whom Providence has placed above the necessity of labouring for their existence, may bear almost without distress an amount of valvular disease which would sink a poor, or an old, or a weakly patient at once.*

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* See on this subject Dr. S. Alison on the Use of Iron in Organic Affections of the Heart; and a most excellent practical paper by Dr. Law, Dublin Medical Journal, vol. xvii. p. 192.

And, as man is born to toil, and liable to disease and to old age, so these conditions interfere largely to prevent the most natural being the most common termination of valvular disease. The secondary symptoms succeed each other very regularly. Commonly the failure of the action of one valve, most frequently on the left side, impedes the regular course of the circulation behind it; and hence ensue dyspnœa,† and all the symptoms which betoken the obstruction of the passage of blood through the lungs. At a later period, when the faulty action transmits its influence yet further back, through the right side of the heart, anasarca follows, with congestion of other organs besides the lungs: and it is from one or all of these that the patient sinks, under local disease or general exhaustion.

To all these patients the condition of each of these organs, and of the general powers of the constitution, are of as great importance as is the condition of the heart itself; for though there are very few diseases of the different vital organs in whose secondary affections we should not have to include diseases of most of the other vital organs, it is so, perhaps, in the highest degree as concerns diseases of the heart. And here the secondary affections have yet a graver interest, in the fact that it is by their means, in the majority of cases, that the primary disease of the heart proves fatal. Headache,—to take an instance from the brain,—epistaxis, even mental anxiety, which might be safely overlooked when secondary to disease of some other organs, require continual watching in cases of disease of the heart; for they indicate both the organ through which the fatal termination may be reached at last, and the approach of that event.

It does not appear that any of these secondary affections of particular organs are definitely and exclusively connected with any particular valvular lesion. Their local origin cannot be stated with more precision than to connect them simply with disorganization of the right or left side of the heart, according to the situation which the suffering organ holds in relation to either of these chambers; nor does the intimate mode of their production admit of any more elaborate subdivision. They depend simply on increased or diminished arterial pressure, or on venous obstruction.

The effects which such changes in the degree of arterial pressure produce are best displayed among the cerebral complications of valvular disease, for there only do these changes assume any pathological importance; but the effects of venous obstruction, which is the more usual form of derangement of the circulation, seem to require some general notice in this place.

As a rule, such secondary effects of valvular disease are displayed behind—in the order of the circulation—the particular chamber of the heart affected. Affection of the left side of the heart, for instance, is most often attended by pulmonary obstruction or œdema; of the right, by general venous congestion or anasarca. In practice, one of the earliest indications of imperfection of the heart is usually found in dyspnœa on exertion; while the accession of general dropsy, or its rapid increase, commonly denotes the entire failure of the system, and the approach of death. Abstractedly, however, we are not justified in disregarding failure of the left side because its symptoms occur in slight cases, often many years before death; nor are we correct in attaching that absolute value to functional imperfection of the right side of the heart which the circumstances under which its symptoms are usually met with at first sight seem to demand.

Whether disease of the valves of the

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* It is a matter of interesting consideration what share other peculiarities of children, besides the greater tolerance of their various organs, may have in sustaining life with such disorganisation of the mechanical apparatus of the circulation. The greater extent of the respiratory movements, and the comparative freedom of the lungs from disease—phthisis, perhaps, excepted, which, however, has little to do with the present question—naturally suggest themselves; and others will readily occur: but, besides these obvious differences between childhood and more advanced age, I think that we must not overlook the *vis a fronte*, the force which draws the arterial blood to the capillaries, as distinguished from the *vis a tergo*, the impulsive action of the heart. Perhaps, indeed, this is only the legitimate physiological expression of what we are content to call clinically the tolerance of the organs in childhood—that the organs are not really passively tolerant of congestion, but actively engaged, by the aid of the organic affinities which are so much stronger in children than in adults, in thus maintaining the burthen for which the heart is insufficient. See on this subject Reid's Physiological Researches, p. 49.

† Andral (Clin. Méd., iii. p. 100) thinks that dyspnœa does not supervene so earlyin proportion in old as in young subjects of valvular disease.

right side of the heart is more rapidly fatal than disease of the left valves, I am not able to determine; for the ordinary results of practice give no means for settling this question, which it must be allowed that the more limited observation of less equivocal cases leaves doubtful. We cannot, in the majority of cases, judge of the absolute pathological value of disease of the right side of the heart from its apparent effects; for these are usually mixed with, and, indeed, based on, the effects of disease of the left valves—namely, on a condition of the pulmonary similar to that of the systemic capillaries. And by the time that the effects of the obstruction have reached the systemic capillaries, they have made themselves felt pretty well all through the circulation. For by this time the disease has probably assumed a very serious aspect, from the secondary affections of the left side, independent of this new source of danger and distress from those of the right.

Whatever be the importance of functional imperfections of the right side of the heart,—and great, confessedly, it is,—yet they should hold a lower place, pathologically, than diseases of the left—the effect, to wit, being lower than the cause. For dilatation and hypertrophy—the indices of the virtual amount of imperfection—are, with two exceptions,* rarely met with independent of organic valvular disease, that attribute of the left side. All experience agrees in placing, on such grounds, disorganization of the left side of the heart first in the series of changes, and assigning to it the highest importance. Functional imperfection of the tricuspid valve, and consequent disorganization of the right side of the heart, however frequent and serious its occurrence may be (and I may, with many others, have often erred in overlooking its existence), is commonly but a secondary effect of disorganization of the left side.†

IV. In the nature of the secondary affections themselves, abstractly considered, there is little peculiar; but in the mode of their treatment and the choice of remedies there is much to be remarked. The bronchitis, for instance, which ensues upon disease of the heart, does not differ in such a way from that which arises in connection with disease of the kidneys or emphysema that it could be certainly recognised as such at first sight; but the difference may be well made to appear in the treatment. From this point of view the secondary affections have been chiefly regarded in the following remarks. The cure, indeed, of the original disease is a matter to be left out of consideration; but its existence and continual agency must never be lost sight of. Our treatment must relate entirely to the secondary symptoms; but it must be modified by the knowledge that, as the cause of the disease will still remain behind, the same thing may still have to be done over and over again, and each time under less favourable circumstances than before.

Yet, indeed, these are not cases to leave alone, nor routine cases, to all of which one uniform plan of treatment is applicable. Each case is a study of itself; and, provided only that the "*nimia medici diligentia*" do not place the patient in a worse condition to resist any future attacks, there is no cause to fear doing too much to relieve these patients. And the close attention to their symptoms which such a plan of treatment would involve, is now and then rewarded by the discovery of some happy idiosyncrasy with regard to the effects of particular remedies, or of the action of particular organs on the system at large.

Our knowledge of diseases of the heart has advanced much since the time of Senac; but could the most accomplished physi-

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[*] Viz. dilatation of the right side of the heart, consequent on pulmonary, and hypertrophy of the left, on renal obstruction.

[†] The subject of functional imperfection of the right side of the heart engaged the attention of the late Mr. Wilkinson King (Guy's Hospital Reports, vol. ii. p. 104) and others. More recently, Dr. Blakiston (Diseases of the Chest) has pursued the subject in its pathological bearings.

Of the fact that the tricuspid does not act as perfectly as the mitral valve at all times, there is scarcely room to doubt. Of the cause of this imperfection there is some difference of opinion. Physically, indeed, I think we must admit that the tricuspid valve is less efficient than the mitral,—as far, at least, as the very simple, but very equivocal, experiment of injecting water backwards against the valves of the dead heart goes; but that regurgitation always takes place at each contraction of the right ventricle is scarcely admissible. The hypothesis that tricuspid regurgitation takes place on occasion, when required, by dilatation of the right ventricle, the segments of the valves being by this means drawn asunder, in consequence of the divergence of their bases, is more satisfactory; and Dr. Blakiston's pathological observations of cases where dilatation has become the abiding condition greatly favour this view.

But I think that all purely physical explanations fall far short of the truth. The more complex structure of the right ventricle, and its comparative immunity from disease, seem to show that its functions are of a less purely mechanical nature than are those of the left. Apart from these very important considerations, to which Dr. Williams (Diseases of the Chest, p. 266) has called attention, it would be difficult to believe that so important a function as the regulation of the pulmonary circulation had been left to any mere mechanical contrivance, however beautiful, and that no remedy had been provided, under such circumstances, against congestion of the lungs, short of that degree which should thus relieve itself by forcible distension of the right ventricle.

cian of the present day express more clearly the rules that should guide their treatment than Senac* has done? His remarks apply, it must be observed, to what we commonly know as old disease of the heart. Senac's knowledge, however, stretched beyond that of the past epoch of *morbus cordis* to that of the present day.

"The further we explore the subject of diseases of the heart, the more barren in resources does medicine appear. The remedial agents which are required are but few, and those who are so prodigal in the application of remedies, are ignorant alike of the causes with which they have to contend, and of the real use of the means which they are employing. The resources of our art rest rather in the patients themselves than in any drugs. What can we hope for from medicines, for instance, in dilatation of the heart? Will they restore to its normal form an organ whose action is always abnormal? If the substance of the heart become bony, will medicine soften it? Will medicine melt down tumors or earthy concretions? Can it enlarge constricted passages? Will it dissolve polypi that resist all known solvents? Ignorance and credulity alone could hope for such unheard-of success.

"Must we, then, leave these diseases to themselves? — No; but our powers are limited to arresting their progress, to alleviating their symptoms, to preventing or removing their consequences. The fundamental cause is abiding, and on this, as its basis, all the treatment must hinge. If we adopt any other view, we shall expose our patients to risk without any chance of benefiting them.

"I say that the fundamental cause will persist in spite of our efforts. This is true for the most part; still, if we could take these diseases at the beginning, probably many of them would be amenable to treatment. How many observations have proved that internal aneurisms are not quite beyond our resources! May not aneurisms of the heart and ascending aorta, and other cardiac diseases, be in the same case?

"But what are the remedies from which we could hope to derive any advantage? They must be suggested by the causes from which the patient has reason to apprehend danger. Such causes, summarily, are those which may either disturb anew the action of the heart, may overload its cavities, or may check the circulation there. * * * * * *

"After having provided for the safety of the heart, as far as regards the blood, the functions of the stomach and of the bowels, the condition of the nervous system must not be neglected. * * * *

"It is not less necessary to preserve the tranquillity of the mind. The passions disturb the action of the heart, agitating it even when it is free from disease. We must needs, therefore, avoid them, or moderate them, and forbid all employments of the mind requiring long application or over-exertion.

"The treatment of the symptoms must be guided by the same principles, our remedies being employed strictly according to the indications and urgency of the case. I will not enter here into further details, but give only general rules. It seems hard that, after speaking of particular diseases, one should be able to point out no more particular mode of treatment: but this is not the fault of our art; we can expect it no more than what is possible, and cannot possibly repair what in its nature is irreparable."

QUEEN'S COLLEGE, BIRMINGHAM.

At a recent meeting of the Council of the College, a donation of £25 was recorded from the Right Hon. Lord Leigh towards the completion of the new buildings. At the same board, Dr. James Johnstone, the senior physician to the General Hospital, was appointed Joint Professor of Medicine, and Dr. Samuel Wright, physician of the Queen's Hospital, Joint Professor of Therapeutics in the medical department of the college.

Students in attendance at the Queen's Hospital, 60 in number.—The following Physicians' Clerks and Surgeons' Dressers were reported *as very regular*:—Messrs. Wilkinson, Green, Perry, J. Fox, Webb, Franks, Day, Harris, Wall, and Cockerill.—Attendance very indifferent 3, suspended [illegible].

Clinical Medicine.—In attendance [illegible] Students, of which number 35 were reported *very regular*, 5 regular.—Signed, Samuel Wright, M.D.

Clinical Medicine.—In attendance [illegible], of which number Messrs. Brierley, Oakes, Green, and Scholefield, were reported very *regular*, 4 regular, and 9 indifferent and occasional.—David Nelson, M.D.

Practical Pharmacy.—Messrs. White, Waller, and Cockerill were reported as qualified for a certificate; 3 very regular, 3 irregular.

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* Traité de la Structure du Cœur, &c., tome ii. p. 328-331.

Original Communications.

ON

CEREBRAL TUMORS.

By W. B. Kesteven, Esq.

Surgeon.

"The science of diagnosis holds the first rank in medicine, of which it is the most useful and difficult part."* In no form of disease is diagnosis more difficult, and, at the present time perhaps, less useful, than in that of Tumors of the Brain. Many of the symptoms to which they give rise are common to many other cerebral diseases, to distinguish them from which is the great difficulty; but, unfortunately, from their position beyond the reach of art, we cannot as yet affirm that the greatest improvement and certainty of diagnosis would be attended with corresponding direct improvement in their treatment. Nevertheless, although so far must be conceded, as to the tumors themselves, it cannot be doubted that it would be great gain on behalf of other cerebral diseases with which they are liable to be confounded, were the diagnosis of these morbid growths placed on a certain basis.

The writer offers the following cases and observations, not with the presumption that he can clear away the obscurities which surround the diagnosis of cerebral tumors, but simply because, since correct conclusions in medicine can only be arrived at upon sufficiently extensive data, he has considered that these simple facts may have their value as contributions toward the formation of the desired accuracy in diagnosis.

The imperfection of our diagnosis of tumors of the brain has doubtless proceeded, in a considerable degree, from their having been regarded as isolated pathological curiosities, standing apart from other growths and from each other, possessing no relation of symptoms or of origin one to the other. Thus it has arisen that opinions regarding them have been formed upon limited data, and detection in each instance has been mere matter of guess-work. Whereas it is in this, as in every other form of disease, only by a comparison of a large number of cases that the value of their histories and symptoms can be estimated. By such an estimate only will the obscurity of these most obscure cases be dispelled, and that accuracy in diagnosis be arrived at "without which theory is defective, and practice uncertain."

Tumors of the brain may be arranged in two classes, the *intracranial* and the *epicranial*, according as they perforate the bones of the skull and appear beneath the scalp, or remain during their entire course within the cranium. Both forms are, therefore, intracranial at some period of their history, the difference between them being in the permanent continuance of the one class within the bony cavity. The symptoms, and consequently the diagnosis, will be very different in the two classes. In epicranial tumors the diagnosis is comparatively easy; in the intracranial far more difficult — indeed, impracticable in too many, as shown by the records of numerous cases the existence of which were only revealed by post-mortem examinations. Of this kind are the cases now to be related.

A prominent characteristic of these, and of most of the other instances to which reference will be made, is the tolerance of their presence that was manifested by the brain for a period varying in every instance. This tolerance of morbid growth has been referred by Dr. Copland to the slowness with which they are developed, the brain meanwhile becoming accustomed to their presence until they have encroached upon parts essential to life.

That the brain will for a long time quietly endure a much greater amount of disease than the great importance of its functions would lead us to expect, is a fact familiar to all practical pathologists, and has furnished the grounds of many ephemeral speculations. The same remark holds good also with other organs, but with none is it so strikingly exemplified as with disease within the cranium; the seeming discrepancies between which and its symptoms become daily sources of perplexity. The writer remembers to have seen, when a dresser at St. Bartholomew's Hospital, the case of a man who, in the prime of life and apparently full health, suffered simple fracture of thigh, which was uniting favourably, when he began to exhibit signs of prostration: remedies failed to arrest the sinking powers, and he died without having manifested symptoms of definite illness of any kind. On examination of the body after death, the products of extensive inflammation of the serous membranes within the cranium were found, the whole surface of the brain being covered with puriform lymph. Here was tolerance complete under such extent and nature of disease as is perhaps rarely to be met with, and of which few parallel instances have probably been recorded. The only explanation of the case that suggests itself is, that some vitiated fluid or poisonous matter found its way into the circulation, and produced the insidious meningitis.

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* Louis. "Essay on Fungous Disease of the Dura Mater," published in the Memoirs of the Royal Academy of Surgery of France. Sydenham Society, 1848.

*Four Cases of Tumor of the Brain.**

Case I.—A woman about fifty years of age, of intemperate habits, died with ascites and general anasarca, having never complained of pain in the head, nor made mention of any symptoms referrible to the brain.

Post-mortem appearances.—Effusion to the extent of several pints existed in each pleural cavity, the pleuræ being studded with melanotic spots. The lungs were compressed and carnified by the effusion; an ecchymosis about the size of a hen's egg was found in the upper part of the left lung; otherwise they were healthy in their structure. The heart was healthy; the pericardium contained from six to eight ounces of serum.

The peritoneal cavity contained several quarts of clear and almost colourless serum. The liver presented the aspect of incipient cirrhosis. The kidneys were in the early stage of Bright's disease. The os and cervix uteri were in a state of incipient scirrhus.

On examining the brain, it was found to present a large number of bloody points: its substance was of the usual consistence. The lateral ventricles contained a small quantity of bloody serum. In the fourth ventricle was a small fungoid tumor, about three-quarters of an inch in diameter, presenting all the characters of cerebriform cancer. It was attached to the crus cerebri on each side by a broad pedicle: it extended almost to the corpora quadrigemina, it lay on the calamus scriptorius, and distended the ventricle, which also contained sanguineous serum.

Case II.—A woman, aged forty, had suffered much from headache during the last four months before her death, which, apparently, took place from exhaustion alone. Her mental powers had not been at all impaired. She had complained of want of power in the left hand.

Post-mortem appearances.—The convolutions on the surface of the brain were much flattened. The arachnoid membrane was very dry. On the superior portion of the posterior lobe of the right hemisphere of the brain, and imbedded in its substance, was a tumor which had attachments to the pia mater and arachnoid covering the surface. It extended downwards to just over the posterior portion of the body of the lateral ventricle, but did not extend into that cavity. A small quantity of serum was found in the ventricles, and effusion to a slight extent had taken place in the pia mater external to the arachnoid. In structure the tumor appeared to consist of coagulated blood which had been extravasated at different periods, in some parts presenting the colour of recently coagulated blood, while others were of a yellowish colour, and exhibited a fibrinous structure radiating from the centre. On closer inspection the tumor was found to consist of an aggregation of cells of the size of peas: in the majority of these were portions of recently coagulated blood, mixed at different points with granules of cheesy or scrofulous matter.

Tubercles in various stages existed in the upper part of each lung.

Case III.—A middle-aged man suffered for several weeks from paroxysms of headache, occasionally aggravated into the most agonizing pain in the head: at these times his mental powers were to some extent deranged. In the intervals he was quite free from uneasiness in the head, and his mind became perfectly clear. About three months from the first occurrence of these symptoms he died suddenly.

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* These cases occurred under the writer's notice, in St. Bartholomew's Hospital, between the years 1834-37. In the notes which he has preserved of each case, he finds that he has omitted to name the physician or surgeon under whose care it had occurred.

Post-mortem, thirty hours after death.—The arachnoid membrane was dry: the convolutions were flattened: the lateral ventricles were distended with fluid: the right half of the fornix, forming the roof of the third ventricle, was much thinner than on the left side, and exhibited an aperture, beneath which was the *velum interpositum*, preventing the passage of the fluid from the lateral into the third ventricle. In this ventricle, situated between the anterior and posterior commissures, was a tumor of the size of a hazel nut, of a yellowish colour, and having the consistence of soft wax or firm tallow. Numerous small serous cysts were attached to the *plexus choroides*.

The left ventricle of the heart was both hypertrophied and dilated. The valves were all healthy.

CASE IV.—A woman, aged forty-five years, died of disease of the stomach and uterus, not having exhibited any signs of cerebral disease. On examining the body the greater part of the stomach was found to be converted into that form of disease named by Cruveilhier gelatiniform scirrhus: the larger end of the organ and the two orifices were the only parts which were free from the disease, which had attacked the muscular coat throughout the rest of its extent. The omentum, and part of the transverse arch of the colon, were adherent to the stomach by old adhesions. The middle coat of the colon seemed to be undergoing the same kind of transformation as was seen in the stomach.

The cervix uteri was converted into hard white carcinoma.

A tumor the size of a walnut was found attached to the membrane of the left side of the fourth ventricle. This tumor was partly embedded in the left lobe of the cerebellum, the substance of which it had encroached upon, and of which it had caused the removal. The left half of the pons varolii was also reduced by the pressure of this tumor to about half its usual size.

To the cases here related it has seemed desirable to add a brief notice of some other cases of a similar character that have more recently occurred, in order to exhibit the features of resemblance and of difference presented by these cases. Besides those which are referred to, others might doubtless have been added if the writer had possessed the time or the means required for their collection from the various journals and works throughout which they are scattered.

The proceedings of the Pathological Society of London preserve the records of many cases of cerebral tumors which are here only briefly referred to, as the particulars of each case by its respective author may be found in the pages of the MEDICAL GAZETTE at the references attached to each.

Dr. Hughes Bennett[*] transmitted a microscopical preparation of a tumor of the brain which had been connected with the tentorium. The tumor was of a soft fibrinous character, and under the microscope was found to consist of round or oval solid bodies embedded in a granular matter constituted of fibro-plastic and fusiform cells in various stages of development.

The symptoms produced by this morbid structure had been loss of consciousness, hemiplegia, with contraction and rigidity of the arm on the left side. The patient, a lady between seventy and eighty years of age, had recovered slowly, the intellect remaining weak and latterly defective.

This tumor had probably existed long before it had excited the inflammatory action indicated by softening of the adjoining cerebral structure.

Dr. Bence Jones[†] recorded the case of an intemperate waiter, in whom epilepsy and delirium tremens had occurred about six months before his death, which had followed on paralysis and inflammation of the brain. A tumor was situated in the right side of the middle lobe of the cerebrum; it presented the aspect of the hæmatoid variety of encephaloid disease, and consisted almost entirely of colloid particles.

It can hardly be supposed that here the disease could be dated from the first attack.

Mr. Toynbee[‡] exhibited a small hydatid cyst, about the size of a pea, situated on the squamous portion of the temporal bone, elevating the dura mater, and partially buried in the substance of the brain.

The patient had died of Bright's disease of the kidneys.

Mr. Shaw[§] adduced a remarkable instance of the reversing of the usual order of things, in the progress inwards from the integuments of the face of a cancerous tumor, causing ulceration into the left hemisphere of the brain, unaccompanied by cerebral symptoms, beyond slight epileptic attacks, to which the patient had been subject before. The rest of the brain was healthy.

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[*] Vol. xxxix. p. 692.
[†] Vol. lxii. p. 1084.
[‡] Vol. xliii. p. 37.
[§] Ibid. p. 296.

Mr. Nathaniel Ward[*] related a case which terminated fatally in three months from the first occurrence of symptoms, which consisted of giddiness and dimness of vision. The tumor was seated in the site of the infundibulum; it was of the size of a French walnut, and had distended and displaced the parts adjoining.

Mr. Ward also records the case, forwarded to him by Dr. Parker, of a clergyman who, about six months before his death, became subject to seizures of unconsciousness lasting for a few days, with intervals of perfect good health. He was found dead in his bed. A tumor, consisting of three lobes, had grown from the inner surface of the dura mater, and greatly compressed the brain.

Mr. W. F. Barlow[†] related the case of a child, five years of age, who had exhibited signs of cerebral disease from the age of ten months. After death, a cyst three inches in length and three-quarters of an inch in breadth had been found in the substance of one of the hemispheres. Mr. Barlow, at the same time, referred to several other cases of cerebral cysts which he had met with.

Mr. Erichsen[‡] records a case of a woman who had died lethargic, and whose vision had been impaired for several months, and latterly also whose taste and smell had been lost. A tumor existed in the anterior part of the middle lobe of the cerebrum, and had projected itself downward from the lateral ventricle, pressing upon the optic nerve and optic foramen. The tumor proceeded from the corpus striatum, which was absorbed; the structure of the morbid growth consisted of nerve tubes and cancer cells.

This case is remarkable from the slight extent and late appearance of the symptoms when compared with the great size of the tumor.

Mr. Forster[§] related a case of fungoid tumor connected with disease of and perforation of the temporal bone, originating in an accident The patient, a boy, died from the exhaustion caused by profuse discharge, but exhibited no brain symptoms.

Dr. Williams[*] related the case of a lady the subject of carcinoma of the breast, and elsewhere, whose body, after death, exhibited this disease in various parts, and among these, one attached to the dura mater of the parietal bone. The cerebral symptoms were very slight.

From all the preceding cases, as well as others here referred to, it may be observed that age has little influence on their origin or course; they are met with from childhood to old age.

Dr. Burgess[†] has related the case of a patient who for upwards of five years had suffered from almost unceasing intense headache, without, however any affection of the sensorial or mental powers. After death, a bony mass, the size and shape of a bantam's egg, was found in the right ventricle of the brain It was loosely attacked to the membrane but no spiculæ projected from it into the substance of the brain.

Henke's Zeitschrift, 1837, records a case of tumor of the brain, which was revealed on dissection. The patient having received a slight blow on the face, soon afterwards complained of symptoms of cerebral mischief. These he himself attributed to the blow. Death followed, and a judicial inspection of the body having been made, a tumor of long standing, was found on the petrous portion of the temporal bone. It was of the size of a hazel nut, and of a greyish green colour. It was afterwards ascertained that this man had occasionally complained of headache for a year previously.[‡]

This case is of interest in a medico-legal point of view. Had the blow been inflicted been a little more severe, it might have been regarded as perfectly clear that death was its direct result, and an English coroner who is desirous to save fees might have disposed of the case without a medical opinion, though probably not correctly.

Dr. Bright[§] has illustrated the history of this form of disease, and has contributed, by his extensive pathological knowledge, to diagnosis, by the relation of nine cases, and the addition of his observations thereon.

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[*] Ibid. p. 298.
[†] Ibid. p. 736.
[‡] Vol. xiv. p. 425.
[§] Vol. xliv. p. 767.

[*] Ibid. p. 854.
[†] Liverpool Medical and Pathological Society. Med. Gaz. Jan. 24.
[‡] British and Foreign Review, vol. vi. p. [illegible]
[§] Guy's Hospital Reports, 1837.

Other cases have been recorded by Dr. Latham, Dr. Bright, Dr. Hawkins, Mr. Hunter, and Dr. Abercrombie; but as these writers have been frequently quoted by authors generally, it did not appear that any object would be gained by re-copying their cases on the present occasion; the less so, indeed, as Dr. Copland's bibliographical notices in his Dictionary will furnish the reader with ample information. We shall simply avail ourselves of the opinions offered, upon certain features or general results of these cases, by these authorities.

The present remarks do not pretend to give a complete account of the character and symptoms of all the forms of cerebral tumor which may possibly occur, but merely to place on record what appear to the writer to be interesting cases, to direct attention to others equally or more so, and to endeavour to draw some few inferences from the symptoms presented, which may perhaps in some degree aid in the diagnosis of other similar instances.

With regard, then, to the symptoms which accompanied the cases mentioned, it has been already observed that they manifested strikingly the tolerance of which the brain is capable under disease. So long as they continued to be of a small size, the brain being accustomed to their presence, the cerebral functions remained unimpaired. In like manner, we often see that small cysts and tumors are attached to the choroid plexus in the lateral ventricles, and give no indications of their existence. So also the bodies known as *glandulæ Pacchioni* frequently attain to very considerable size, perforating the *dura mater*, causing fossæ on the inner surface of the bones of the skull, and encroaching upon the longitudinal sinus, without producing any symptoms. Further instances, and still more striking, are those in which tumors of considerable size exist within the cranium without affording indications of their presence until they have actually perforated the cranium, and become epicranial, as in the cases recorded by Louis, in his essay on fungoid disease of the dura mater. Here the appearances of the tumor outside the skull must in the course of development have been preceded by the same condition which in other instances has eventuated in fatal compression or inflammation of the cerebral structures.

Many examples of this want of symptoms are to be found in the various sources referred to in this paper, and others may be found in the pathological writings of Morgagni,* Baillie,† Andral,‡ &c. &c.

Mr. Solly§ accurately describes the history of a case where the brain was long tolerant of disease. The first announcement of disease was shown in the signs of irritation producing epileptic convulsions. There was then an interval of apparent health, during which the brain seemed to have become accustomed to the presence of the morbid growth. This was succeeded by impairment of the intellect, and death. The tumor here was of a fibrous character, and of rapid growth; the patient being only between four and five years of age, and the fatal termination having taken place in about six months after the first exhibition of any signs of its existence.

Mr. Solly gives also an excellent instance in illustration of the length of time during which disease of this character will exist without giving rise to cerebral symptoms.

It may here be repeated that, although these morbid growths, as they increase in size, and encroach upon important parts of the nervous centres, generally produce some sign of their presence, are often only detected after death, having caused no symptoms during life. Although this point has been here referred to as a remarkable feature in their history, it is also to be borne in mind, as already observed, that they exhibit this feature in common with some other morbid conditions. Taken together, these facts exhibit proofs of the insensibility of the nervous structure itself, and lend additional confirmation to the scientific demonstration by Dr. George Burrows of the physiological state of the cerebral circulation, and of the importance of pressure as an element of cerebral disease; as in every case the fatal symptoms produced by these growths are referrible to their increase causing compression of the cerebral substance, as also these occasional earlier symptoms are explicable upon the idea of variation in the quantity of blood within the cranium.

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* Seats and Causes of Disease, Cook's edition, vol. i. p. 9.

† Pathological Anatomy, by Wardrop, vol. ii. p. 402.

‡ Pathological Anatomy, by Townsend and West, vol. ii. p. 779.

§ MEDICAL GAZETTE, vol. x. p. 191. Or, The Human Brain: its Structure, Physiology, and Diseases, 2d edit. p. 648.

Dr. Bright thus describes the course of the symptoms as noticed in two cases related by him in the Guy's Hospital Reports:—

"The impaired functions of the senses, more particularly of sight and hearing, preceded by a considerable time any important loss of power in the voluntary muscles, or any diminution of the common sensibility; in regard to which some slight want of correspondence is observable in the two cases, more particularly as to the spasmodic or convulsive action which occasionally displayed itself in the second case, but was not present in the first. In both cases, however, something analogous to fits of congestive apoplexy occurred, as the irritation and embarrassment of the brain gradually proceeded; and, doubtless, the serous affection and consequent changes in the ventricles had a considerable share both in impairing the muscular power and in inducing that feebleness and oppression of the intellect which formed no part of the disease in its earlier stages."*

This group of symptoms presents the general characters exhibited by these cases, with the exception of pain, which is usually a prominent symptom, but which is not mentioned by Dr. Bright.

Dr. Copland, in his Dictionary of Practical Medicine, has given a very full and complete account of the several forms of cerebral tumor, and there observes, with reference to their symptoms:—"When small, and sources rather of irritation than compression, convulsive attacks are oftener occasioned by them than paralysis; when large, they more frequently give rise to paralysis than convulsions; but either of them may be followed by any of those affections; mental weakness being the more constant, and often the most remarkable effect."†

Dr. Baillie remarked that a long-continued pain was the most common attendant on these cerebral tumors, although sometimes, he observed, attended with convulsions, sometimes delirium, and sometimes with apoplexy.

It may here be stated that the structure of these various growths is very accurately described in Rokitansky's Pathological Anatomy, published by the Sydenham Society.

From what has been said by other writers, as well as from the cases here related, it may be gathered that, although cerebral tumors present so many features in common with other forms of organic and functional disease of the brain, that it is, in the present state of their diagnosis, almost impossible to arrive at a positive conclusion of the existence of such growth in any one case; yet that some of the features which they present, when considered together with the exclusion of other symptoms, may justify a suspicion of their presence, and that the history of their progress will strengthen the suspicion into a strong assumption. Pain is an almost invariable and early indication of the presence of these morbid growths; but, as it is also a sign of many other states of disease, its character must be very closely observed in order to attach it to the cause alluded to. The pain is, in general, strictly local, of an acute or intense and stupefying character, often absolutely agonizing, occurring in paroxysms at uncertain periods, and passing off without leaving any other symptom, at least probably for years. The senses of sight, hearing and taste, after a time become more or less affected. Convulsions frequently occur in the course of their growth; these are not at first followed by palsy, which occurs usually at a later period, after the previous symptoms have been experienced at uncertain times extending over a shorter or longer period. Gastric disorders are pretty sure to occur as the disease encroaches upon the cerebral substance, and they are most frequently met with either during the paroxysms of pain or recurrently with the convulsive attacks which denote cerebral irritation. That the latter should ever be absent is matter of some surprise when we consider how small an osseous deposit will excite epilepsy.

Upper Holloway, March 4, 1861.

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* Dr. Bright's Cases of Tumors situated at the Base of the Brain, Guy's Hospital Reports, 1836-7, p. 391.

† Dictionary: article Brain, p. 204.

CASE OF
POISONING BY CHLOROFORM.

(*Read to the Sheffield Medical Society, March* 21, 1851.)

COMMUNICATED BY ALFRED S. TAYLOR, M.D., F.R.S.

OUR experience is as yet very limited respecting the action of chloroform, as a liquid, in large doses. Mr. H. Jackson, of Sheffield, has kindly communicated to me the subjoined case, the details of which will be found to possess great interest. It is remarkable on the following grounds:—1st. That a very large dose of chloroform (*four ounces*) was swallowed by the patient. 2. That the individual, although he had lost all recollection of his movements, was capable of walking and exerting himself for at least an hour after swallowing the chloroform. 3. That the symptoms produced by chloroform as a *liquid* are not those of anæsthesia, but closely resemble the effects of alcoholic poisoning.—That chloroform as a liquid is removed with great rapidity from the stomach, partly by absorption, and partly, perhaps, by the passage of the liquid into the bowels. No chloroform was found in the stomach four hours after this large dose had been swallowed. The case further proves that liquid chloroform cannot be regarded as an active poison, and that as a noxious agent it is far more potent when applied in the state of vapour to the pulmonary surface than when introduced as a liquid into the stomach.

Mr. Jackson has suggested the question whether it be possible for a person to drink such a quantity of chloroform from a bottle. There appears to be nothing to shake the correctness of the boy's statement, and, medically, the question resolves itself into this:—whether the vapour respired during the act of deglutition would suffice to produce insensibility and loss of power in a shorter period of time than that necessary for the completion of the act of deglutition. There is no reason to suppose that the vapour would incapacitate a person from swallowing four ounces under such circumstances; and as the patient could have had no motive for untruly describing the circumstances, there appears to me to be no medical reason for rejecting his statement as untrue.

About 2 o'clock, on Friday afternoon, a young man, æt. 22, apparently in a state of intoxication, entered the shop of a barber, in Gibraltar Street, and laid himself down on a bench, where he fell asleep Until about 4 P.M. no notice was taken of him, but at that hour the master of the shop became alarmed, and sent for a surgeon. Mr. Gleadall soon arrived, and found him in a state of coma. The skin was much below the natural temperature; pupils much dilated, and insensible to light; respiration tranquil; pulse 65, small; the breath strongly impregnated with the odour of chloroform. An empty four-ounce bottle, which had contained chloroform, was found in his pocket. No treatment had been adopted except that of sprinkling cold water over the face.

Mr. Gleadall immediately introduced the tube of the stomach-pump, and washed out the stomach very freely with warm water in the first place, and then with brandy and water, and finally introduced one drachm of compound spirit of ammonia, which was in a short time vomited, together with a quantity of food which had been taken in the early part of the day.

The coma now became more profound; the breathing stertorous and puffing; the skin cold; pulse imperceptible; and there were general convulsions.

He was removed to the hospital of the poorhouse, and about 11 P.M. was seen by the surgeon, Mr. Skinner, who found him in an extreme state of collapse; comatose, and very pale; skin cold; the pupils acting very irregularly, sometimes much dilated, at others much contracted; breathing stertorous and puffing, and a frothy expectoration was expelled convulsively; sibilant rhonchus over the *whole* of the chest; pulse not more than 50, very feeble, and compressible; slight convulsive shiverings; the breath strongly impregnated with chloroform.

He was placed in bed, wrapped in blankets, and surrounded with tins of hot water. A large sinapism was applied to the chest, and a blister to the nape of the neck. He gradually recovered, and about 2 A.M. became sensible. A mixture of ammonia was ordered.

On Saturday morning, at 11 o'clock,

he was complaining greatly of pain in the head; the conjunctivæ very much congested; the skin hot; respiration easy; pulse 90, soft; tongue red, and the papillæ raised. A slight sibilant rhonchus was detected over the whole extent of the chest, and the heart sounds were roughened. He was ordered to take the powder of chalk, mercury, and rhubarb, and the saline mixture.

On Sunday much improved; the abnormal sound of lungs and heart gone.

On Monday he was much better, and on Tuesday he was discharged.

From the account given by him, it appeared that about 1 o'clock on Friday, when opposite the New Barracks, about a mile from the barber's shop, he drank 4 ounces of chloroform, which he had taken from his master's surgery (an ounce bottle of hydrocyanic acid was found in his pocket), and from that time he had no recollection of anything until he found himself in the hospital of the poorhouse, not even of having gone into the barber's shop.

ON THE

TREATMENT OF PROLAPSUS RECTI.

By John Mackenzie, Esq.
Surgeon, Naval Hospital, Archangel.

I have been so much gratified with the result of a new method of operating, of my invention, for the cure of *prolapsus intestini recti*, as it occurs in its worst and most obstinate form amongst soldiers, that I am induced to send you an account of it for publication. A safe and effectual remedy for this disease has been hitherto a desideratum. The *plica* of Dupuytren, while involving danger from internal hæmorrhage, oftener fails than succeeds; nor is the use of the actual cautery more successful.

Before proceeding further I shall make a few remarks on the nature of the disease, in order to explain the *modus operandi* of the method in question. It must necessarily follow, before a falling down of the rectum can take place, that its attachments to the surrounding parts must have given way: besides, there obtains, in cases of long-standing, a relaxed or atonic state of the levator ani muscles, almost approaching to paralysis; so that protrusion takes place from the slightest exertion, even in the simple act of walking. In order, then, to effect a radical cure, it is necessary to use such means as shall restore this lost adhesion, by exciting sufficient degree of inflammation for this purpose, and which, at the same time, shall prevent protrusion till adhesion takes place, and shall rouse the nervous and muscular energy of the sphincter and levator ani muscles. This is effected in the most satisfactory manner, without the slightest danger to the patient, by passing a strong ligature, by means of the crooked needle, through the anal aperture laterally, introducing the needle at the distance of an inch from the verge of the anus on the left side, and transfixing the rectum at the depth of half an inch, making it emerge on the right side at the same distance as on the opposite. This being done, the ligature is firmly tied, and the patient is put to bed, with ice applied to the part, to prevent undue inflammatory action.

The presence of this ligature, or rather suture, causes considerable pain and excitement. The sphincter is observed to contract forcibly, the pulse quickens, the skin gets hot, and the cheeks become flushed. The ligature is maintained till its presence has brought on considerable fever, or the pain becomes intolerable, when it is removed, and the ice continued for several days, till the cure is completed.

Case I.—While assisting at some operations at the Military Hospital of this place, on the 12th of January, O.S. 1851, the head medical man of the hospital, Mr. Schmidt, asked my advice respecting a case of prolapsus ani of long standing. The patient, a soldier, ætatis 35, Ambrosini Molin, of strong frame, had laboured under this disease for a year and a half; there was so much weakness of the sphincter muscle, that the prolapsed gut could not be retained, but always protruded to the extent of three inches. From the prolapsed part there was a copious and constant discharge of mucus and bloody serum, by which he was reduced to extreme exhaustion; he looked pale and leuco-phlegmatic, like a person labouring under long-continued hæmorrhage: he said he felt so miserable, that life was a burden to him. The operation was performed by me, as above described, at one o'clock that day, and in twelve hours time there was so much pain and fever that it was found necessary to remove the ligature, continuing the constant application of ice. In twelve hours more the fever had subsided. On the fourth day, to relieve the bowels, a dose of castor oil was given to the patient, which operated without any sign of protrusion, nor did a relapse take place from that day forward.

Case II.—Peter Simakoff, a retired soldier, ætatis 35, entered the Military Hospital on the 3rd of February, 1851, ill of prolapsus ani, and from the patient being in a state of mental imbecility it was impossible to find out from him how long he had laboured under the disease; all we could ascertain on this head was, that he had been in the hospital in the beginning of 1850, ill of the same complaint. On February 18th I operated upon him in the same manner, and as no fever ensued the ligature was continued till the fourth day, when it was removed, no protrusion following the use of the bowels, which was obtained by means of cold injections On the 25th, the patient, from long straining, brought on a slight relapse, in consequence of which I found it advisable to operate a second time, in order to effect a radical cure. I accordingly applied the ligature again on the 27th of February, avoiding this time the application of ice for four hours after the operation, so as not to prevent the necessary degree of inflammatory action. On revisiting the patient on the 28th, I found him in a violent fever; yet, from his state of imbecility, he complained of no pain. The ligature was removed, and ice continued. Since, no relapse has taken place, and to all appearance the cure is radically complete.

This case clearly shows that the ice should not have been applied in the first instance, until febrile excitement had shown itself. I look upon this agent, however, as powerfully conducive to the cure, inasmuch as it moderates inflammatory action, while at the same time it tends to keep up the spastic action of the sphincter ani muscle after the ligature is removed.

Case III.—Kanagool Thangaroff, a Tartar of the Kirgis tribe, ætatis 31, a soldier of strong athletic frame, entered the hospital for the cure of prolapsus ani on March 9th, 1851; the disease was of two years' standing, and proceeded, to the best of his knowledge, from long-continued diarrhœa. On stooping, the gut protruded to the extent of two or three inches, the anal aperture dilating enormously. On the 10th, at one o'clock, P.M., I performed the operation as described, with this little difference, that the needle did not penetrate so deeply; this was owing to the anus being, in this case, so deeply sunk in the outlet of a very narrow pelvis. On tightening the ligature the patient complained of much pain: he was put to bed, with orders not to apply ice until some fever had set in, which took place in the course of five hours. In the evening he felt a call to go to stool, when cold water was injected per rectum, and the bowels relieved, the ligature offering no resistance.

11th.—The fever much less; still considerable pain from the ligature; bowels twice open.

12th.—*Being* the third day of the operation, there was no fever, and the pain from the ligature was little complained of.

On the 13th the ligature was removed, and caution given to inject cold water per rectum, previous to his going to stool, and to avoid straining. No protrusion has taken place since, notwithstanding that the bowels have been open twice a day. The cure may be considered as permanent.

March 17, 1851.

NOTES ON THE

STRUCTURE, &c. OF TEETH.

By C. Spence Bate, Esq.

[Continued from p. 403].

On the Growth of the Maxillary Bones in relation to the Development of the Teeth.

It is now some years since (1839) Prof. Goodsir first made known the interesting fact, that teeth were developed from the mucous membrane of the mouth, and that it is only from such origin that teeth can be developed.

The first appearance indicating the progress of a new formation is shown in a groove, apparently sunk in the integuments, but in reality formed by the increasing growth of the surrounding tissues; at the bottom "a pencil of the capillaries" commences to develope a net-work of blood-vessels, which, by their increase, raise a small papilla, which progresses and developes the pulp of the future tooth, and, as far as my own observations go, seem persistently to occupy the position of the extreme point of the fang of the future deciduous tooth. It is about this stage that ossification of the inferior maxilla commences, and proceeds to form first a corresponding groove, which is ultimately traversed by the inferior maxillary artery, which then comes into immediate contact with the papillæ and the floor of the primary groove.

It is probably the development of the osseous tissues which accelerates the growth of the surrounding soft parts, lifting (as it were) in the lower jaw the outer, in the upper jaw the inner wall, of the primary dental groove, which so increase, that they overlap the groove itself, and ultimately uniting with the opposite wall, inclose the papillæ within perfect sacs.

It is upon a similar model that the osseous portion is developed; exhibiting a tendency to grow over and inclose the teeth as the walls of the primary groove do the papillæ, and which, moreover, it actually succeeds in effecting at the posterior portion of the jaws, where the teeth are later in their development.

The papillæ which first appear on the floor of the primary groove are next surrounded by walls, and exist in open follicles, which are afterwards covered over; in which sacs the fostered papillæ increase in growth, and develope the pulps which afterwards become converted into the hard and bony tissues of the teeth.

When the papillæ first appear they are, perforce, but at limited distances, but yet are separated in greater relative proportions than exist with the full-developed teeth and jaws. The spaces beween the teeth diminish as the pulp and sacs increase in size, until they press against each other. Up to this period the pulps are not separated by even membranous septa, consequently the pressure of the pulps against each other tends to the rapid increase of the space in which they are confined. It is about the third month or thirteenth week that the first septa become apparent, one anterior and another posterior to the canines, in the upper jaw, while bars exist in a similar position in relation to the canines in the lower jaw. It is by the development of the anterior septa in the upper jaw that the obliteration of the separation of the inter-maxillary from the maxillary is partly effected, since it is common to both; but conditional upon an apparent law, that bones can only grow at their extremities, the importance and individuality of the inter-maxillary bones are seen.

Mr. Nasmyth, in his posthumous work, says,—"These bones serve most importantly to render the upper jaw pliant during the actions of the mouth in the early years of life; and they are also of high account in promoting by their growth the latitude necessary for the proper arrangement of the teeth. As a means, also, of preventing concussion of the teeth, they are valuable accessories in the mechanism of the mouth."

That the upper jaw, taken as a whole, grows otherwise than at the median line where the two bones unite, and at the posterior extremity during the period of development preceding the completion of the diciduous set, I think may be clearly demonstrated through the agency of marks, not artificially placed, like those by which Hunter sought his knowledge on the long bones of the skeleton, but by natural ones, of, I think, quite equal importance,—the septa which separate the teeth and divide the jaws into alveolar compartments.

The deciduous teeth may be divided into maxillary or molars, canines, and inter-maxillary* or incisors. Of these, in the original development of the papillæ the molars appear first, the canines next, and the inter-maxillary last. In relation to their position in the jaws is the corresponding progress in the growth of the osseous tissue which builds up the hard structure. The bones commencing to ossify above the molars extend forwards to the canine, after which, in the upper jaw, the inter-maxillary bones proceed with their development. This is the law with the lower animals, and so it is with man, in the progress of a structure whose office is to act as a frame and support to the teeth.

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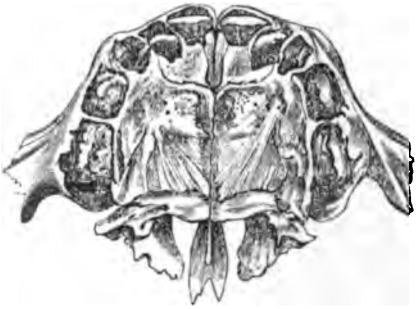
* It appears to me, that if the term inter-maxillary were more commonly applied to these teeth instead of the more usual one, incisor, it would be very convenient in comparative examination of these organs—as, for instance, in a young pig, the third or posterior incisor is much more, both in form and size, like a canine, than is the true canine in the same animal; but the position of the former in the inter-maxillary bones, while the latter is planted in the maxillary, defines the true homology of each.

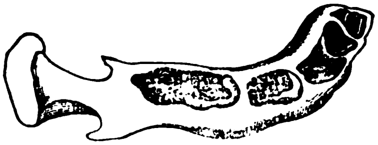
In a fœtus of three months, the pulps and sacs of the teeth are too large to fill the arch of the jaws, and at birth the teeth hold positions in relation to each other which are exceedingly irregular; the laterals in the upper jaw being placed diagonally, and behind the central incisors, whilst the canines are turned almost at right angles with the rest, and thrust out so as to form a prominent bulge in the facial walls; whereas the molars, which lie even in the line of regularity, have their anterior side raised and the posterior depressed, both in the first and second, so that the latter seems to ride the former. Thus we see at birth (fig. 27) the jaws are not yet developed to an extent required by the teeth in order that they may occupy a position in the mouth consistent with regularity and an even arch; the greatest irregularity existing in those teeth which are contiguous to the point of amalgamation of the inter-maxillary with the maxillary bones, which continues until about the sixth month after birth, as it may be observed that teeth cut anterior to that date partake more or less of this irregularity, but which gradually disappears by, I presume, a growth of the osseous tissue at the point between the laterals and canines, that is, at the point where the two bones (the maxillary and inter-maxillary) meet. This idea is supported by observing the relative position of the teeth in the lower jaw, which are also irregularly situated in the jaw: but a relative measurement of the diameter of each tooth with the outer wall of its respective socket will demonstrate that they are equal, and, consequently upon the further development of the teeth themselves, will elevate the crowns to the line of a wider arch than that which they now seem to occupy, and allow them to fall into their normal position without any very appreciable amount of growth of the bones in which they are planted, and which takes place only at the extremities (fig. 28) The diciduous teeth being fully developed, the inter-maxillary bones in man have fulfilled their mission,—therefore, by amalgamation, give strength to the jaws; but not so in the lower animals, where observation shows us that, as yet, they have a necessary office to fulfil

FIG. 27.



Upper jaw of a child at birth.

FIG. 28.



One side of the lower jaw of a child at birth.

In man, the ten anterior permanent teeth of the upper jaw occupy the same space as the ten milk teeth which they replace: the increase in the size of the incisors and canines corresponding to the proportionate decrease in the relative size of the bicuspid or premolars to that of the diciduous molars which they replace.

But this is not the case in the lower vertebrate animals; as, for instance, in the dog, the three diciduous molars are replaced by four premolars, which occupy a greater space in the jaw, therefore the corresponding increase in the size of the permanent teeth which replace the deciduous incisors and canines, together with the increased space between the incisors and canines required for the reception of the canine tooth belonging to the lower jaw—a persistent mark distinctive of all animals but man,*—must be met by a relative consenting growth in the jaw, in order to meet the necessary requirements of the future set, and which is obtained by growth of the intermaxillary bones at the point where they meet the maxillary, that is, between the incisors and canines.

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[*] Owen.

It has been a matter of some speculation to physiologists, that although, in the original development of the papillæ from the mucous membrane, the posterior precede the anterior, and the teeth of the upper jaw precede those in the lower, yet when the period has arrived that the teeth shall protrude through the gums, we find that the anterior teeth, both in the upper and lower jaw, precede the posterior, and also the teeth of the inferior precede those of the superior jaw; but this, which at first appears to be strange, seems to me nothing more than a simple rate of growth: that is, the small teeth progress faster than the large. However large or small the tooth, conversion of its pulp into osseous tissue does not commence until the full diameter of the future tooth is attained; but immediately that it is attained, conversion of the pulp commences, consequently this process must be accomplished earlier in a tooth whose diameter is less, than in one in which it is greater. Supposing this, the progress of the teeth through the gums is accomplished in consecutive order. The smallest or under incisors appear first, the corresponding teeth in the upper jaw next; the laterals being second teeth of the same division follow next; the first molars whose papillæ appeared first on the surface of the gums, follow the incisor teeth, and are themselves followed by the canines; soon after which the second molars appear. The whole of which is accomplished in about two years, though occasional instances may be met with when three years of age and upwards have been attained previous to the completion of the deciduous dentition. After which, as first pointed out by Hunter, the human jaws continue to grow only at their posterior extremities, in order to receive the permanent molar teeth; the first of which forms an interesting link between the deciduous and permanent sets, being developed like the former from a papilla, but continuing persistent, and in a character resembles those developed later in a manner common to all the other permanent teeth, that is, from a fold of the mucous membrane, distinct from the primary, and called the secondary groove, by Prof. Goodsir.

Contemporaneous with the progressive development of this (the first true molar), the whole series of permanent teeth are being developed within the jaws, the progressive growth of which induces a new action, destructive in character, to be set up, leading to the absorption of the fangs, and the ultimate displacement of the deciduous or milk set of teeth.

On the Absorption of the Roots of the Deciduous Teeth.

One of the most peculiar and interesting processes connected with the economy of the animal system is that in which the deciduous teeth are removed, in order that the permanent set may occupy a similar position in the alveolar arch.

It is curious and interesting—nay, more, it is instructive, as showing the progressive victory of the human intellect in its onward path in the search of truth—to notice the various ideas and theories which have successively been broached by individuals to account for phenomena not even yet fully explained.

The early anatomists imagined the milk teeth to have no roots, taking the hypothesis upon trust, simply because they were known to fall out. "Thus (to use the words of the source from which I obtain any information[*]), "instead of making anatomical researches, they wasted their faculties in vain conjecture."

"Bunon, having acknowledged that the permanent and temporary teeth were perfectly independent of each other, endeavours to explain this destruction of the roots of the teeth by supposing the action of the second dentition to be increased by the heat of the parts, and that the roots, destroyed by the pressure exerted upon them by the crown of the permanent teeth, were consumed by heat or carried away by saliva."[†]

"Fauchard supposes that this destruction results from peculiar properties of the juices of the temporary roots, or from the action of the surrounding secretions."

"L'Ecluse, in 1764, ascribed it to a sort of maceration, consequent upon the dental vessels ceasing at a certain period to supply the first teeth. Jour dain, admitting that the phenomenon is partly explicable by pressure, finds another cause in the acrimony acquired at a certain period by juices conveyed to the milk teeth, which, he says, dispose the teeth to decomposition as if they were injected with an acid, and that finally the root disappears without any one knowing by what means.

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[*] Forceps, No. 8, where it is quoted as translated from De la Barre.

[†] Prof. Bell (Anatomy, Physiology, and Diseases of the Teeth) gives to this writer a different theory in the following passage:—"Of the erroneous doctrines of the older writers,—of the mechanical abrasion of the roots of the temporary teeth, by the friction of those of the permanent, as advanced by Bunon," &c.

" Bourdet rejects all these explanations, and was the first to observe that at the time of shedding a temporary tooth a carneous tubercle is found behind it, interposed between it and the root of the deciduous one. He concludes that this tubercle exudes an acid juice that acts upon the temporary root that is nearest to it. M. La Forgue designates this tubercle by the name of 'appareil absorbent' . . . . Hunter, in his Natural History of the Teeth, says that it is very natural to suppose that this wasting of the roots is owing to a constant pressure from the rising tooth,—but it is not so; for, where the first set falls out, the succeeding teeth are so far from having destroyed the parts against which they might be supposed to press, that they are still covered by a complete bony socket. Fox believes that the destruction of the temporary teeth results from pressure exerted upon the permanent tooth, upon the alveolus, and upon the root of the deciduous tooth: he makes no mention of the fungiform body, and his system, ingenious as it is, will not stand the test of a dissection made on the jaw of a child about six years old. Has M. Serres resolved the problem, who says that the roots are worn away by 'usure,' or a slow destruction resulting from a primordial law, of which no one can assign the natural cause? He adds, the roots are worn away by the same law that destroys the alveolar, partition. It is certain that there is not only a law, but an agent, charged to destroy every obstacle to dentition. This agent would have been discovered sooner, if physiologists instead of forming conjectures had gone to nature for the fact. While the crown of the permanent tooth is forming, the outer membrane of the matrice is simply crossed by a few vessels; but as soon as it is completed the capillaries develope themselves in a peculiar manner. From this time the inner membrane becomes thick, changes its pale pink colour for a redder hue. It is when the coats of the matrice, conveyed from the gum to the neck of the tooth, begin to react, that the plaiting of the vessels composes a fleshy body, whose absorbents act upon all surrounding parts. It is then the dental matrice itself, after serving as an envelope for the tooth, is contracted to form this bud-like body, which we find under the milk tooth at the instant of its falling out, but also a carneous mass by which the whole crown is surrounded, and whose thickness is the more remarkable, as the organ it developes is nearer its orifice. Whether a fluid exhaled from this acts chemically on the surrounding parts, or whether the absorbents, without any intermedial, remove every obstacle to the advance of the tooth, having no satisfactory proof to guide us, I am not prepared to say."

Prof. Bell* considers it to be a process of anticipation. "The existence, though not the pressure, or even contact, of the new body, is necessary to excite the action of the absorbent vessels."

Since which, and up to the present time, the most commonly received opinion has been, and still is, that by pressure of the new teeth the deciduous are deprived of nutriment, and the perishing material is taken up by absorbents in a manner parallel with that which nature carries on where the economy of the system requires the removal or obliteration of any injured or diseased part among the soft tissues.

There can, I think, be but little doubt that the primary cause of absorption is pressure; but pressure in itself must not be considered in the light of an absorbent power, but only a condition of absorption, or we should find that, when development is arrested, so that one permanent tooth (as is the case not infrequently with the dens sapientia in relation to the second molar) springs up beneath,—that is, in the same alveoli with its anterior neighbour, absorption, as in the deciduous, would take place.

It may be argued that design is manifest in one, and not in the other. True, but design never violates a law in nature. Instead of saying that pressure absorbs the fangs of the deciduous teeth, we only admit that it induces a determination of blood to the vascular plexus on the capsule of the new tooth; that whereever the capsule charged with blood comes into contact with osseous tissue, whether of the tooth or jaw in which it is imbedded, then absorption takes place, and this sometimes when there is or ca be no pressure, either directly or indirectly (fig. 29 *a*). The great amount o oxygen which the arterial blood brings into these capillary vessels acts upon the carbon in the surrounding tissues, and carbonic acid is generated, which, upon the removal of the periosteum from the surface of the tooth, is brought into immediate contact with the calcareous tissues of which the tooth is composed. Here the affinities induce a chemical change, and decomposition of the salts in the tooth takes place. The carbonate of lime is reduced to a bi-carbonate, which, being a soluble salt, is removed in a state of solution, and which admits of a more decided action upon the remaining phosphate of lime—the chief salt of which the tooth is composed: this is also taken up, and carried away in solution. The carbonic acid in solution having power to dissolve the bone-phosphate, the presence of the bicarbonate of lime rather gives strength to the solution than interferes with its power of dissolving phosphate of lime.* And it is an interesting fact, observed by the author here quoted, in his researches on the power of water holding carbonic acid in solution to dissolve bone-earth, that it takes up the phosphate and carbonate in a ratio as to the proportions in which they exist in bone.

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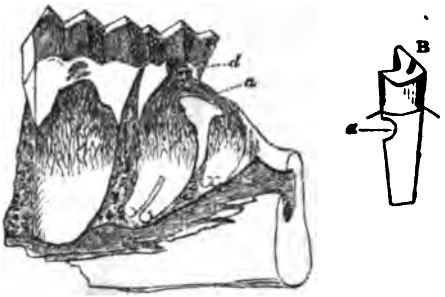
* Anatomy, &c. of the Teeth.

FIG. 29.



From the lower jaw of a sheep, in which absorption was observed to follow (*a*) the line of communication between the capsules of the two primitive teeth.

B. Lateral view of the deciduous mola (*a*) showing the line of absorption. *d*. Caries.

The enamel portion of the capsular investment of the permanent teeth appears to be an organ especially desig for this purpose, being much more lib rally at this period endowed with blo vessels than that portion which prote the dentinal pulp; therefore the ant rior portion only of the tooth has t capability of inducing absorption. Th is interestingly shown in those cas inverted development where the cro buries itself in the osseous structur the jaw, but do not protrude the fan into the gum.

This fact is of great importance; fo were it otherwise, absorption would b as likely, particularly under abnorm circumstances, which induce the ne set to protrude through the gums ir gularly, to press the fang into the ja as to follow its natural course.

How far the decomposed portion the old tooth becomes available in th development of the newer organ. a some have supposed, I am not prepar to say. Neither is it of any practica value, since we find that the early r moval of a deciduous tooth does n conduce to any arrest in the develop ment of the succeeding permane tooth.

If the foregoing idea has truth for it basis, the same law will hold good in ab normal absorption of the bone: such a necrosis, &c. The carbonic acid bein generated within the affinities of th calcareous portion of the bone by a inflammatory action of the periosteum and the surrounding tissues, a chemical action is induced, resulting in the destruction of the bone, and the great difference which distinguishes necrosis from normal absorption appears to be due to the amount and uniformity of carbonic acid generated,—normal absorption being the result of a healthy vascularity, necrosis being caused by a more or less active inflammation.

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* M. Lassaigne, in the MEDICAL GAZETTE, Dec. 14, 1849.

Necrosis, and, I believe, all absorption of bone which takes place in adults, is attended with suppuration; and probably a portion of earthy matter is carried away in the discharge, to the presence of which it may be that pus produced from bone derives its fœtor.

The process of absorption progressively goes on, proportionate with the development of the permanent set, until the deciduous teeth are rendered incapable of retaining their position in the gums from want of due support. It is this process in the economy of nature by which one set is removed through the development of another that is recognised under the term of shedding.

[To be continued.]

ON THE TREATMENT OF CHRONIC LARYNGEAL DISEASE. BY DR. WATSON.

In the treatment of chronic diseases of the laryngeal mucous membrane, Dr. Watson says, "I place my chief reliance on topical applications to the parts affected, but I do not undervalue or neglect more general measures. Indeed, I should despair of curing the local affection if the health of the patient were unattended to, if exertions of the voice were persisted in, and if the larynx were not freed from every cause of excitement or irritation.

"I do not intend, in this place, to enter at large on the history of topical applications to the larynx. For this I must refer to more systematic treatises. Suffice it here to say, that that plan of treatment is no such novelty as many suppose, and that probably it took its origin from our own distinguished countryman, Sir Charles Bell. In his Surgical Observations he relates a case in which he employed a solution of nitrate of silver applied to the interior of the larnyx with great benefit. His account of the proceeding is as follows:—"I made a small pad of lint," he says, "and attached it to the ring of a catheter wire, and bent the wire so as to pass over the root of the tongue and epiglottis; I dipped the lint in a solution of twenty grains of the caustic to half an ounce of water, and touched the glottis with it in this manner: with the fingers of my left hand I pressed down the tongue and stretched the forefinger over the epiglottis; then, directing the wire along the finger, I removed the point of the finger from the glottis, and introduced the pad of lint into the opening, and pressed it with my finger." MM. Trousseau and Belloc, without knowing, or at all events without acknowledging Sir Charles Bell's practice, used the very same method, but substituted a whalebone rod for the catheter wire, and a piece of sponge for the pad of lint. I confess it remains doubtful, whether Sir Charles Bell passed his instrument through the glottis into the larynx. Trousseau and Belloc tell us, they did not with their sponge and whalebone, but had recourse to an ingenious syringe for that purpose. It is, therefore, due to Dr. Horace Green, to acknowledge that he first declared he could pass a similar instrument to that of Trousseau and Belloc down into the laryngeal cavity. I must say, however, on the other hand, that after trial of various spatulas for holding down the tongue, as recommended by Dr. Green, I have gone back to Sir Charles Bell's plan of introducing the finger upon the laryngeal surface of the epiglottis. and thus guiding the sponge into the rima glottidis. The strength of the solution should vary with the requirements of the case, and it should be applied every day or second day, according to the patient's feelings. After each application a degree of rawness, sometimes amounting to positive pain, will supervene, and while this lasts no new application should be made; but as soon after its subsidence as convenient it may be repeated with benefit. In fact, the sooner it can be done the better, for, powerful as we believe the remedy to be, it is often a long time ere any perceptible improvement takes place, especially when the case is one of long standing. It is of great importance that both surgeon and patient be prepared for this before commencing the treatment, else disappointment will infallibly ensue. All attempts on the part of the patient to test the progress of the cure should be for a time discouraged by the surgeon, and he should carefully avoid appearing to expect improvement by asking after the symptoms, until he has good reason to believe that they are yielding. Indeed, I have seldom found it necessary to ask at all after improvement in such cases, for the patient himself is always fully aware of it when it has occurred, and equally eager to speak of it."—*Dublin Quarterly Journal.*

MEDICAL GAZETTE.

FRIDAY, APRIL 18, 1851.

Our attention has been called to certain documents which have been recently issued, with an unusual amount of privacy, by the Board of Health. We allude to two letters, and a minute of the Board on the appointment and duties of Officers of Health under the Public Health Act, with the views of Lord Ashley, Mr. Chadwick, and Dr. Southwood Smith, thereon. When the subject of sanitary legislation was first broached, there was a general opinion among members of the profession that a vast number of profitable and respectable offices would henceforth be accessible to the profession. We believe that many gentlemen were ready to resign practice upon the mere chance of obtaining such appointments; and all kinds of influence were set in motion for the purpose of procuring them. We need not say that these *El-dorado* expectations have led to disappointment. Officers of health have either not been appointed, or, with one or two exceptions, the offices have led to the imposition of a larger share of work upon the occupants than was justified by the remuneration. The most splendid prize of this description was that bestowed on Mr. Simon by the Corporation of the City of London. In a few corporate towns, we believe, the example of the City of London has been followed, so far as making the appointment is concerned; but we have not heard whether the salary has been adjusted on the same liberal scale.

Judging from the papers now before us, the duties of an officer of health are of a most arduous kind, requiring experience, skill, vigilance, and a profound knowledge of medicine and the collateral sciences. Let any one who imagines himself to be qualified for such an office consider the number and variety of duties the performance of which is expected from him by the Board of Health. The enumerated duties amount to 30. We would willingly give an abstract of them, but we find it impossible to condense the instructions without rendering them obscure. We here, therefore, transcribe them from the official document for the information of our readers, who may not otherwise have an opportuni of seeing them:—

"1. The general duties of the Officer of Health will comprise the duty giving instructions and directions the removal or prevention of causes disease common to several persons, a also for the prevention or removal causes of disease to individuals, wh those causes come within the provi of local administration under the Pu Health Act.

"2. Except in cases where exis disease may be alleviated by the immediate removal of any of the hereina specified causes, the general duties the Officer of Health shall in no ca comprehend treatment for the cure alleviation of disease.

"3. The Officer of Health shall all practicable means to obtain earliest information of the occurrence of cases of fever, of whatsoever type small-pox, measles, or other epide endemic, or contagious disease.

"4. On obtaining information of occurrence of cases of sickness or from any such disease, he shall immediately visit the spot.

"5. He shall examine and ascert by house to house visitation or o wise, whether others besides those have died are affected; and he give such warning or instructions to persons affected as may be calculated induce them to have recourse to me cal treatment, or take such measures the circumstances of the epidemic other species of disease may appear require.

"6. In case of an outbreak of sm pox, he shall inquire whether any persons living in or near the premises unvaccinated, and urge on the Guardians the duty of seeing that all unvaccinated persons are vaccinated under the 3 and 4 Vic. c. 29, and 4 and 5 Vic. c. 32, and take steps to discover unvaccinated persons, and secure their vaccination with the least possible delay. He shall also inquire under what circumstances the outbreak originated, carefully investigating the history of the first case, and the mode in which the disease was propagated. He shall inquire into, and report upon, the causes which have tended to impede the practice of vaccination, or to render the vaccination ineffectual, and the circumstances which may render re-vaccination desirable.

" 7. In case of the occurrence of any epidemic disease amongst the occupants of any single room occupied by one family, or by more than one lodger, or tenements otherwise overcrowded, the Officer of Health shall give instruction for the removal of the sick, or the diminution of the overcrowding, or for the prevention, by such means as may be available, of the spread of the disease.

" 8. In the case of a death in any room occupied as a living or sleeping-room by survivors, he shall give instructions, either for the removal of the corpse to some house or place of intermediate reception, to await the funeral rites, or for the removal of the occupiers.

" 9. In all cases of death, he shall give such instructions to the survivors as he may be authorized to give under any Act of Parliament, as to the care of the body, as to the sort of coffin to be used for the prevention of noxious evaporations, and the removal and interment of the body, with such precautions as may be required for the protection of public health.

10. " He shall, after having given such instructions as aforesaid, in such order as he may deem necessary, examine into cases of typhus or other epidemic, endemic, or contagious disease, and inquire whether such disease was caused or aggravated by anything which is capable of removal in or about the premises, the living or sleeping-rooms, or places of work, of the persons attacked, and shall notify the same to the persons responsible for the nuisance; as, in the case of accumulations of filth, noxious cesspools, house-drains, or sewers of deposit, to the officers responsible therefor: he shall also, where necessary, give instructions for lime-washing, or the application of deodorizing or disinfectant mixtures or substances.

" 11. In the case of small-pox or any other contagious or epidemic disease attacking any child who has frequented any school, he shall, as early as may be practicable, visit such school, and inquire and examine whether there be symptoms of the infection, or prevalence of the disease, amongst the other children, and give such instructions and advice as may appear to be necessary for the prevention of the spread of the disease.

" 12. In the case of the like disease attacking any worker (whether young or adult) in any factory or place of work with others, he shall visit such place of work, and inquire and examine whether there be symptoms of the disease amongst the workers, and give such instructions or advice as may appear to be necessary for the prevention of the spread of the disease.

" 13. Besides his own frequent visitation and inspection of those parts of his district which are the most likely to be the seats of disease, in order that he may ascertain as early as possible the actual occurrence of any form of zymotic disease, he shall maintain a constant communication with the inspector of nuisances for the district (whose reports he shall examine, and give such instructions thereon as will best ensure the speedy discovery of all causes injuriously affecting the public health), with the ministers of religion, the registrar of his district, and the Union medical officers, and shall from time to time examine the medical weekly returns, and the registers of sickness and mortality furnished by the district medical officers.

" 14. He shall appoint and notify convenient times at which, when not prevented by extraordinary duties, he will personally attend daily, or, at such times as may be convenient, at his office, or other convenient place, to receive information in respect to the occurrence of epidemic disease or matters affecting the public health within the district.

" 15. Inasmuch as the ordinary seats of epidemics are also the localities of other classes of disease which shorten life—such as scrofula, and its frequent concomitant pulmonary consumption, he shall further make a special examination of the conditions which produce a predisposition to this class of diseases, as well as to epidemics, within the district.

"16. In his inspection of schools, manufactories, or workshops, he shall take note of the children, young persons, and work-people, who may appear to be pallid, feeble, sickly, or in a peculiarly low condition of health, and inquire whether such condition has been produced by over crowding, by defective ventilation, imperfect cleansing, or any other removable cause of debility or disease.

"17. He shall himself exercise such a superintendence over measures of prevention or alleviation which he may have recommended as will enable him to ascertain whether they have been properly and effectually performed; and if he find any deficiency or delay in the execution, he shall make inquiry into the cause thereof, and shall report the same to the Local Board of Health.

"18. He shall perform *all the duties* imposed upon him *by any bye-laws of the Local Board*, whether of inspection or otherwise, in respect of lodging and slaughter-houses, and any other matter affecting the public health in respect of which Local Boards may have framed bye-laws under the Public Health Act; and in visiting any tenements in pursuance of such bye-laws, he shall from time to time make such visits by night, or at such times as the inmates are assembled, and observe and report on the state and action of the means of ventilation in such places.

"19. Whilst public works of sanitary improvements or cleansing are in progress, such as the removal of cesspools for the formation of new drainage or sewerage works, the cleansing out of town ditches, water-courses, ponds, or canals, he shall give such instructions as to the time and mode of conducting the operations, the application of water, lime, deodorizing or disinfecting substances, and any other means of protecting the public from noxious or offensive emanations as may appear to him to be requisite.

"20. He shall, upon any complaint, or upon the emission of any offensive or noxious smell, or the accumulation of deposits in drains or sewers, report upon the same to the Local Board of Health, or to such officer as may be appointed by the Local Board to receive and act upon such complaint.

"21. On the occurrence of atmospheric pollution from any offensive process or trade carried on in any manufactory, yard, house, or premises within his district, he shall inquire into the cause, and report on the appropriate means for the prevention of such noxious smells and emanations. In case of the refusal or neglect of the occupier or proprietor to adopt the measures recommended, or other effectual remedies, or in case of the manufacturing process being of such a nature as not to admit of any effectual remedy, he shall then observe and collect the evidence of the injurious effect of the process in question on health, shall be prepared to adduce such evidence whenever called upon by the proper authorities, and shall otherwise assist those authorities by all the means in his power in their efforts for the abatement of the nuisance.

"22. In cases where there is no medical certificate, or where, from anything that appears, the deceased died without any regular medical attendance, *it shall be the duty of the officer of health to examine into and determine as closely as he may the cause, as well as the fact, of the death*

"23. In the case of deaths suspected to be from violence, accident, neglect, or carelessness, or when from other circumstances he may deem it desirable, he shall notify the same in writing to the coroner, and shall present a copy of such notification to the Local Board at their next meeting, and shall *in all cases, when practicable, render such services as may be requisite to aid the investigations of coroners or magistrates*.

"24. He shall attend at all meetings of the local Board of Health, and report to them his proceedings during the intervals between their meetings.

"25. He shall keep a diary, in which he shall make an entry of his visits, and notes of his observations and instructions thereon, which diary he shall produce, whenever required, both to the Local and to the General Board of Health; he shall also keep a register of complaints or representations made to him, to be called 'The Officer of Health's Application Book,' in which shall be recorded the date and nature of every application made to him, the date of its examination, and the result of such examination, and shall produce such book whenever required, both to the Local and General Board of Health.

"26. On the occurrence or discovery of any source of injury to the public health, or of any epidemic disease, he shall, besides warning the Local Board thereon, send information thereof to the General Board of Health.

"27. He shall, from the best information he can obtain, make a report *not less frequently than once a quarter of the nature and amount of sickness and death which have prevailed during the quarter.*

"28. He shall in such report describe the progress and effects of any works of amendment which may have been commenced or executed

"29. He shall also *prepare annually a printed report and tabular return of the ascertained sickness as well as mortality of the district for the year*, distinguishing therein the sickness and mortality of the several streets, squares, courts, lanes, yards, and alleys; and for this purpose, where there is a survey of the district, he shall be furnished by the Local Board with a tracing or copy of the same, on which he shall mark the seats of epidemic or other disease; and such report shall set forth the amount of epidemic sickness or mortality which has prevailed in the district, as compared with former years, amongst different classes of persons, and in different localities of the district, and also a comparison of such rate of sickness and death with the rates of sickness and death amongst other classes and in other places, and any instructions in the way of warning, or for prevention or mitigation of sickness, which the facts may suggest, as well as the particulars of any deaths which may have occurred from epidemic, endemic, or contagious disease, the amount and causes of infantile mortality (that is, of children under five years of age), and the nature and amount of sickness and death which may have occurred from causes which appear to be preventible, and within the recognized province of public administration, or that appear requisite to be brought within it.

"30. The annual and quarterly reports shall be printed, and a copy given to each member of the Local Board, and two copies shall be transmitted to the General Board of Health, and one to the office of the Registrar-General, and the Poor Law Board, as well as to each member of the Boards of Guardians, and to each of the medical officers, and incumbents of the several parishes within the district; and it shall otherwise be circulated for the information of the inhabitants of the district, as may be provided by the Local Board of Health.

"Given under our hands, and under the seal of the General Board of Health, this twelfth day of February, in the year of our Lord one thousand eight hundred and fifty-one.

"L.S. (Signed) "ASHLEY.
"EDWIN CHADWICK.
"T. SOUTHWOOD SMITH."

In a letter accompanying this document it is stated, that—

> "Officers of health ought to be specially informed in relation to the mechanical means of ventilation, water supply, drainage and cleansing, and generally on the topics comprehended in the most approved works of Medical Jurisprudence; and should be competent to conduct chemical analyses of articles of food, water, and similar agents, the condition of which often influences materially the health of a district."

Thus, then, the officer, in addition to a profound knowledge of medical police, must be well versed, theoretically and practically, in physics, chemistry, and medical jurisprudence.

It is important to remark that the Board decidedly object to the Officer of Health continuing in *private practice.* They assert that the duties here imposed form no part of the ordinary duties of private medical practitioners, and further, that the services of the Officer of Health only commence where those of the private practitioner terminate. From the nature of the duties enumerated, we think it is pretty obvious that if only one half were performed in any one district, not to mention amalgamated districts, the occupant of the office would find no time for private practice. He would be either in perpetual motion, drawing up reports, or rubbing up his knowledge in physics, chemistry, and medical jurisprudence. The coroner's inquests alone would furnish a fair amount of occupation; and where these functionaries could have their investigations aided without the payment of fees, business in this line would not be likely to fall off.

We now turn to that interesting and necessary topic, namely, the amount of remuneration to be awarded for the services here required. In the first place, there should be a compensation for the sacrifice of private practice; and secondly, to this should be added a liberal salary for the due performance of duties requiring great skill, experience, and scientific attainments of a high order. We have in vain turned over the letter of the Board, the minute and the statement of duties:—we find therein nothing definite, and therefore nothing satisfactory. We are told that the money now spent in the mitigation of such diseases forms but a small part of the real cost of the neglect of preventive measures. If, therefore, we can arrive at the former item, we may come to some conclusion respecting the latter. The Board assume that the amount sufficient to maintain the whole existing number of physicians, surgeons, and apothecaries, in any place, may be taken to represent the money now spent in the mitigation of disease. Hence—

"The appointment of an Officer of Health, giving his whole time to the work of prevention, must be a great pecuniary economy, *whatever reasonable sum* may be paid him to make him interested in and satisfied with the performance of his duty."

We admire the cautious phraseology of this sentence. No one has yet heard of any medical man receiving an unreasonable sum for any public office which he happened to occupy: and it would be contrary to precedent that the rates of counties or boroughs should be heavily taxed for these onerous appointments under the 40th section of the Public Health Act. The "reasonable" sums will most probably be fashioned on the Poor Law principle; but, unfortunately for Local Boards, the competition for the new offices will probably be of much more limited extent th for Union appointments. Even if man be disposed to give up practice an become an Officer of Health, he wi be required to undergo a kind of e amination in the preparation of pr tionary reports on the means for th prevention of disease in the district.

In a large and populous borough salary of from not less than one th sand to one thousand five hund pounds per annum, should be atta to the performance of such multifar services as those enumerated by Board of Health. The Board ap to regard these appointments as li to lead to the passive extinction whole existing race of physician geons, and apothecaries. We a so sanguine. Under a proper di of duties they may confer much be on the poorer classes of society: bu is a Utopian notion to suppose they will ever lead to the extinct disease.

Reviews.

On the Existing State of our Knowle of Vaccination and Revaccinatio preventive of Small-pox: bein Comprehensive Practical Examin of the Subject. By ALEXAN KNOX, M.D., Physician to the St ford Dispensary. Pamphlet, 57. London: Taylor, Walton, Maberly. 1850.

AT various times since the general troduction of vaccination, the p mind has been made anxious by prevalence of Small-pox in dif places, and by the frequent occurr of this disease in persons previo vaccinated. The inquiry has thence turally arisen, "How far is vaccina protective against Small-pox?" Hitherto the profession has not been in a position to give a definite answer to this question. The farther, however, we recede from the days of Jenner, the more competent we are to form a just estimate of the value of his great discovery; and the nearer do we approximate to a full and comprehensive survey of this truly important subject.

Dr. Knox's researches have been directed to the attainment of this object, so far as the facts that have been accumulated since the year 1804 enable him to form his conclusions.

The author introduces his observations by a short historical summary of the Casual Small-pox, of the practice of Inoculation, and of the introduction of Vaccination. In the next place Dr. Knox proceeds to trace the effects of the doctrines of Jenner. Under this head we find quoted, the Report of the Provincial Medical Association, upon which was mainly founded the "Vaccination Act," passed several years ago, for the extension of Vaccination, and under which many thousands have been vaccinated, who would not otherwise have received that advantage. We may remark in passing, that as the Act has now been some years in operation, it is desirable that the profession and the public should be put in possession of the results which have been collected in the office of the Poor Law Commissioners.*

Dr. Knox observes that the number of those who doubt the protective power of Vaccination is gradually increasing, both on the Continent and in this country, and that many observers entertain the opinion that the protective influence wears out in time. This opinion Dr. Knox proceeds to combat, first disposing of certain collateral benefits of vaccination. Among these—"It is asserted by him that the process of dentition is, in many cases, accelerated by the development of Cow-pock, and Capuron admits, that it is, at least, not made more troublesome." The result of our own observation, is, that when dentition is normal, and unattended with febrile or other derangement, vaccination exerts no influence whatever on the process, neither is it influenced in any way by healthy dentition.

Dr. Knox quotes the authority of Jenner and others, that various chronic diseases of the skin have been rendered milder, and even actually removed, by Vaccination. The diseases specified are Scabies, Herpes, Porrigo, and Impetigo. Ophthalmia and Scrofula are added by Valentin; (a rather indefinite addition, we think.) Dr. Knox makes the following observations on this point:—

> "Nor does there seem to be any valid objection against trying the effects of Vaccination in such cases, provided we do not allow the lymph, resulting from the operation to be made use of, for the transmission of the Cow-Pock to others. We do not advise our readers to expect any striking success from this practice, as it will be found, in the majority of instances, unsuccessful in arresting the progress of any severe cutaneous diseases" (p. 8).

We take occasion to remark upon these observations, that, in our opinion, a great objection exists against trying vaccination in individuals suffering from herpes, porrigo, &c., because vaccination in these cases usually takes place imperfectly, and they are consequently left open to severe attacks of variola. Another objection also obtains in the fact, that vaccination often aggravates the previously existing disease, and thus tends to throw discredit on the practice in the opinion of the multitude.

Dr. Knox points out the superiority of cow-pock over inoculation, in the absence of the production of cutaneous and other diseases, the germs of which are often excited into activity by variola. The occasional occurrence of boils and pustules after cow-pock, can infer no deterioration of blood, as alleged by some writers. These eruptions are seldom met with as occurring after vaccination, and certainly we very much doubt if they can be asserted to be the effect of the cow-pock. The utmost that we have been able to trace to vaccine influence, has been a papular eruption, that in most cases has disappeared before the scab of the cow-pock has fallen off. It is therefore a vulgar error to suppose that these eruptions depend upon impurity of the vaccine virus; the diseases happen to be coincident with, and not consequent upon, vaccination.

We are convinced that if due precaution be taken, irregularities of the vesicle are rarely met with, and when they do occur, they may arise from some constitutional peculiarity of the individual at the time; or they may be produced by the lymph being taken from a vesicle at too advanced a period, when mixed with the common products of inflammation. In either way the lymph so produced will cause irregular vesicles on healthy individuals, and so leave them imperfectly protected. Hence the greatest care should be taken in distinguishing the irregular vesicle, and in avoiding the use of lymph from such vesicles. We may add also that the lymph obtained from a perfectly genuine vesicle may deteriorate if too much be taken; thus, after vaccinating several individuals, or charging many instruments from the same arm, the virus comes to be so diluted with serous effusion that its distinctive properties are injured. It must not, however, be withheld that some experiments seem to show that diluted lymph may be efficient. At the same time it must be borne in mind that lymph diluted with water is very different from lymph diluted with the products of inflammation.

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* **Since writing the above, we find, upon applying to the Poor-law Board for access to the documents relating to vaccination, that the Epidemiological Society has received permission to make public the results which these documents may furnish: hence they will shortly appear in our own pages in the usual course.**

The author discusses very fully and ably the amount of protection from variola afforded by cow-pock. In answer to the assertion that no protection is afforded, Dr. Knox justly quotes the words of Capuron:—"Experience and observation constitute an answer to their foolish and absurd declamations." The evidence in favour of the protective and modifying influence of cow-pock is disposed of under the following topics:—1. Popular experience, as to the immunity enjoyed by those who have casually contracted cow-pock. The latter disease is here fully described by the author. 2. The symptoms of inoculated cow-pock. 3. The identity of cow-pock and small-pox considered as an argument in favour of the protective influence of the former. The leading symptoms of natural small-pox, inoculated small-pox, and cow-pock, are grouped in a tabular form, by the author, with reference to their identity. 4. The testimony in favour of the protective influence of vaccination, which is "almost universal." The united opinions of such men as have advocated the protective power of vaccination, do "unquestionably offer the strongest presumption in favour of Jenner's discovery;" but the actual extent to which protection is afforded, as justly observed by Dr. Knox, "is rather a question of fact than of opinion, and is only to be determined to the satisfaction of the sceptical by a rigid inquiry into the actual results and the conclusions fairly deducible from them" (p. 20).

As "a question of fact," however, it admits of no contradiction that complete immunity from the attack of small-pox for many years is the rule, and the want of protection the infrequent exception. At the same time the exceptions are marked in most instances by such distinct amelioration and alteration of the disease as to hav appropriated to them a special name—that of "modified small-pox." Th some constitutions possess a stro proclivity to the disease, experience ha long since taught observers. It is very long since we met with a cas fatal confluent small-pox in a stro well-made young man, twenty years age, who had been vaccinated when infant, and inoculated also when child.

The protective value of cow-pock w of course, be influenced by the de of perfection of the vaccination; therefore, as Dr. Knox points out, " value of any inferences arising the extensive revaccinations in Prussian army and elsewhere, eviden hinges upon this point." Dr. K enters into a full consideration of various tests which have been posed to ascertain whether an effe vaccination has been performed. sum up this part of the subject:—" protective influence of vaccination author remarks) has been advocated the following grounds:—1. The p which it confers of resisting the c gion of the casual disease; 2. Of r ing the effects of variolous inocula 3. Of resisting the effects of re-vac tion." The proofs of these posit are given by the author. Our own perience furnishes us with several stances of the spread of small among individuals who had refused accept the proffered boon of vaccina for themselves or their children, w the disease has passed over the va nated.

We have already referred to the g importance of care in the selecti perfect and proper vesicles for the tra mission of the virus. We find

Knox again with much reason enforcing this point:—

> "Of the other assigned causes of failure which appear worthy of being examined in detail, perhaps the most important is the employment of unsuitable virus. Thus, if the lymph be taken from a spurious pock, or from a genuine pock at too late a stage, we shall in the latter case possibly, and in the former certainly, fail to impart the true protective influence by vaccination. It has, therefore, always been considered a matter of practical importance to determine the most suitable period and mode for selecting the lymph for the purpose of transmission.
>
> "The period at which it is usually selected is the eighth day, in accordance with the calculation of Mr. Jefferson, the President of the United States of America, who determined, after the most careful investigation, 'that the point of time counting from vaccination, when the matter is genuine, is, in all cases, eight times twenty-four hours.' And, for the sake of uniformity, it seems desirable that this rule should be adhered to" (p. 28).

As this is a point of much practical importance, we may be excused making an objection to the rule thus laid down. Instead of taking the lymph after eight times twenty-four hours from vaccination, as thus recommended by Mr. Jefferson, and sanctioned by Dr. Knox's authority, the results of experience lead us to consider that it is more desirable to take it after seven times twenty-four, or on the day week of insertion: at this period the lymph is more certain to produce a genuine vesicle, thereby affording the greatest amount of protection. Any deviation, in fact, from the natural course of the disease, should be looked upon as likely to leave the person vaccinated liable to suffer more severely from small-pox, should he take it at any time, than another individual in whom the vesicle arrived at its maturity on the eighth day, or the day week.

The author quotes (p. 31) the statement of Mr. Patterson, that the deterioration of the virus is due to its being taken before the ninth day. With this we cannot agree: a very extensive vaccination practice leads us to the very opposite conclusion—viz., that lymph taken before the ninth day is far more active and likely to succeed than when taken after the ninth day. We believe that all who have been accustomed to vaccinate large numbers of children will bear us out in this opinion.

With reference to the means of conveying lymph for the purpose of transmission, we can speak with greater confidence of small ivory points than of any other means. Dr. Knox's opinion is to the same effect. The bottles with long stoppers which are much used—of the moist lymph preserved in which, Dr. Knox states, "it is alleged by some authorities to produce an irritable vesicle"—are open to great objections. If the lymph be kept more than twenty-four hours in warm weather, or forty-eight in cold weather, it is liable to decomposition, and will not only produce an irritable vesicle, but may induce severe and serious constitutional disturbance. About a year and a half ago a child died at Clerkenwell from having been vaccinated with lymph that had been kept nine days in the fluid state in a glass bottle. Another child, vaccinated at the same time from the same supply, nearly lost its life. The children were, in fact, inoculated with putrid animal matter. The same decomposition may and does take place in glass capillary tubes, which very frequently fail to convey good and efficient lymph. Hence the use of either of these means should be avoided, except for almost instantaneous transmission to a short distance.

Dr. Knox enters fully into the subject of the period at which vaccination should be performed, and states it to be his own practice to vaccinate between the third and fourth month.

With reference to the necessity for revaccination, the author observes, after citing several authorities, that renewed and extended observations are necessary to determine the point.

We fully concur in Dr. Knox's opinion, that the number of attacks of small-pox after vaccination has been greatly exaggerated; while it is still more clear that the severity of recent epidemics of small-pox will bear no comparison with that of epidemics before the introduction of cow-pock. We do not, however, concur in the statement of Dr. Knox, albeit supported by no less an authority than that of Dr. Baron, "that cases of small-pox occurring after vaccination are not more numerous than those occurring after a previous attack of small-pox." We have been favoured with the following statistics by the kindness and politeness of Mr. Marson, the resident surgeon of the Small-pox Hospital.*

In the year 1850, 307 patients were admitted into that Institution with variolous disease—of these 129 were unprotected by vaccination, one had small-pox after small-pox, and 177 after vaccination. During four preceding years 1473 cases were admitted, of which 549 were unprotected, 18 after natural small-pox or inoculation, 906 after vaccination=(omitting fractions) 37 per cent. unprotected, one per cent. after small-pox, and 61 per cent. after vaccination. These figures it will be seen are entirely opposed to the above quoted statement,—that cases of small-pox occurring after vaccination are not more numerous than those occurring after small-pox.

The protective influence of vaccination has, nevertheless, been so incontrovertibly established, that the above great extent of failures should only serve to call forth greater energy in the practice of vaccination, while it demonstrates the necessity of more stringent legislative enactment to compel its reception by all classes.

Dr. Knox enumerates the various remedies which have been suggested to obviate the partial failure of vaccination,—*e. g.*, variolous inoculation, employment of lymph fresh taken from the cow, increased number of vesicles, and the universal adoption, and more careful performance of vaccination, with revaccination at certain intervals. Of these the latter is undoubtedly the surest and safest; although we must protest against the employment of lymph produced by revaccination, since the vesicle is, nineteen times out of twenty, a modified vesicle; the practice would therefore only lead to still greater uncertainty and imperfection in vaccination, and *pro tanto* leave so many more individuals exposed to severe attacks of variola. The insertion of lymph by a large number of incisions produces great constitutional fever, which we have no evidence to prove is a measure of the protective power of the cow-pock. The employment of fresh lymph from the cow has not always been found to produce a regular vesicle nor greater certainty of protection. Of several children whom we revaccinated with lymph only four removes from the cow, in all, the course of the disease was shorter than usual, and all took the genuine disease a few weeks afterwards from lymph that had passed through many human constitutions. It is true that in this case the lymph may not have been genuine cow-pock; but the fact shows the plan to be open to a degree of uncertainty which does not attend the ordinary method, since the matter employed was obtained from a trustworthy source.

It must be stated, that on the question of the identity or non-identity of cow-pock and small-pox, Dr. Knox takes the affirmative view in opposition to the opinion of Dr. Gregory, and cites the experiments of Mr. Ceely in support of his opinion. These experiments are considered to have confirmed the suspicion entertained by Jenner, that the diseases are identical, which suspicion has been further supposed to be strengthened by the opinions of Baron, and others. The objections to the arguments for the identity of the two diseases, Dr. Knox says, "must now go for nothing." Inasmuch, however, as these objections are advanced by Dr. George Gregory, we are for ourselves (without undertaking to decide the point), not disposed so utterly to disregard the opinions of one who has enjoyed such large opportunities of observing both diseases, and whose scientific reputation deserves more courteous treatment at the hands of any who investigate this difficult question.*

Dr. Knox's pamphlet has been prepared with great pains, and contains a large amount of information. With the corrections we have pointed out it will be found admirably suited to the wants of the profession.

Pharmacopœia Collegii Regalis Medicorum Londinensis. Londini: apud Johannem Churchill. 12mo. 1851.
The Pharmacopœia of the Royal College of Physicians of London for 1851. Translated by a PHYSICIAN. 12mo. London: Renshaw. 1851.

THESE two little pocket volumes may be noticed together. With regard

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*** We gladly take this opportunity of expressing our admiration of the construction and internal arrangements of the new Small-pox Hospital, in Upper Holloway, lately errected under the superintendence and direction of Mr. Marson. It may serve as a model for similar institutions.**

*** We perceive, since we wrote the above, that Dr. Gregory has answered Dr. Knox's remarks under this head, in the Medical Times, March 1st. We may, therefore, safely leave the discussion in his hands.**

the Latin copy, we shall only remark that it is much more convenient for reference than the octavo edition. The translation, which is published anonymously, has evidently been got up with great expedition. The author admits that it is "neither elegant nor free," but his object has been to render the original *verbatim* into English. We have compared his work with the original, and find his statement to be correct. The translation is harsh in places, and the sentences are sometimes involved, although the meaning is never obscure. The changes in the Pharmacopœia have been so ably pointed out in the letters of our intelligent correspondent, Dr. Nevins, of Liverpool,[*] that we cannot do better than refer our readers to them for any information on this part of the subject.

The Romans were not acquainted with chemical tests, and their language does not readily adapt itself to the description of modern scientific processes and reactions The Latin version of these is admirably calculated to mislead the student. In looking over the Materia Medica, and the tests employed to determine the chemical properties of substances, we find, under *Ferrocyanide of Potassium*, the following:—

> "Quod ex eo a ferri sulphate dejicitur, principio albet, mox cœruleum fit: quod a cupri sulphate dejicitur fuscum est: quod a zinci sulphate albet. . . . . Igni rubente permutatur."

The "Physician," acting on the *verbatim* principle, thus renders this passage:—

> "What is thrown down by sulphate of iron is at first white, but soon becomes blue; what is thrown down by sulphate of copper is brown; that by sulphate of zinc white. . . . . It is altered by a red heat."

This, it will be perceived, is a very literal translation, and the translator has been misled by the Latin terms.

The common sulphate of iron here alluded to does not give a white, but a dirty grey or greenish precipitate, according to the proportion of salt present, or test added. "What is thrown down by sulphate of copper," is *not* brown, but a rich claret red. This error arises from the ambiguous meaning of the term "fuscum." Ferrocyanide of Potassium is something more than "altered" by a red heat; it is in chemical language decomposed; but the Romans knew no more of chemical decompositions than they did of the Ferrocyanide of Potassium itself. It is surely paying dearly for the retention of a classical language in the description of modern chemical processes, when the terms used are necessarily so vague in signification that they either give no information (igni rubente permutatur), or actually deceive the pharmaceutical student by their ambiguity (quod a cupri sulphate dejicitur *fuscum* est). Nearly all the sulphate of zinc used in chemistry contains iron,—hence the precipitate is more commonly bluish-white than white; but trifles of this kind, although they are stumbling-blocks to the practical student, are unrecorded. We cannot perceive the utility of preserving Latin for these descriptions of tests.

The translation is in a neat compendious form, and contains all that the practitioner will require. It would have been improved by the addition of notes to correct the deficiencies and ambiguities of the Latin text.

Proceedings of Societies.

ACADEMY OF SCIENCES, PARIS.

March 31, 1851.

Experimental Researches upon the Modification of Animal Heat produced by different Therapeutic Agents.

MM. Dumeril, Dumarquay, and Lecointe, addressed the first part of an essay having for its object to determine the effects of increasing doses of active medicines on animal heat. The medicines upon which the researches now submitted had been made were cantharides, canella, sulphate of quinine, ergot of rye, acetate of ammonia, phosphorus, and strychnine. All these substances have produced an elevation of temperature varying from several tenths of a degree to several degrees. The following are some of the details of the experiments:—Cantharides, given in doses of 0·08, 0·20, and 0·40 centigrammes (= 0·123–0·308–0·617 Eng. grs.), up to 8 centigrammes (= 1·235 Eng. grs.) the thermometer rose two degrees in the course of six hours. Canella was given in doses of 20 and 30 grammes (= 300–450 grs. Eng.); the temperature was augmented 1·7° to 2·7°. Ergot of rye was once given in a dose of 4 grammes (= 60 grs. Eng.), and, in the course of six hours, an augmentation of eight-tenths of a degree was observed. Acetate of ammonia was introduced into the stomach five times, and once into the veins, in the dose of 5, 10, 20, and 50 grammes (= 75, 150, 300, and 750 grs. Eng.): the temperature was raised, both when taken into the stomach, and when injected into the veins. The temperature varied: thus, 5 grammes (= 75 grs. Eng.) injected into the veins caused an augmentation of eight-tenths of a degree; 5 grammes and 10 grammes (= 75 and 150 grs. Eng.), taken into the stomach, gave an increase of one degree, and one and three-tenths of a degree. The increase did not exceed this under increase of doses. Sulphate of quinine taken into the stomach in doses of one and two grammes (= 15—30 grs. Eng.) produced a rise of temperature varying from 1·5° to 2·2°. At the end of this experiment the temperature during several hours fell several tenths of a degree. Phosphorus was six times given in doses of two centigrammes (= 0·308 grs. Eng.) There was a regular augmentation of 1·7° in the first animal, of 2·2° in the second, whilst in the other four, to whom the medicine was given in doses of from 10 to 20 centigrammes (= 1·544—3·088 grs. Eng.), there was a constant depression of temperature to the extent of two-tenths of a degree. The sulphate of strychnine produced but a very slight elevation of temperature.

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[*] See pages 615 and 697.

New Mode of Administering Cod-liver Oil.

M. LOZE, a naval surgeon, stated that he had attributed the failures of this remedy in phthisis to its non-absorption; and that, with the view of effecting this, he had combined the oil with a mucilage containing pancreatic juice, which thus forms an artificial chyle. In this form the oil is readily and completely absorbed, and its effect more directly obtained in phthisis.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Severe Laceration of the Leg—Amputation—Aneurism by Anastomosis—Strangulated Femoral Hernia.

AMONGST the large and varied class of cases which are brought under the notice of the surgeon at a public hospital, there are certain instances of disease or injury which not only prove more instructive and interesting to those who witness them, but demand a more than ordinary exercise of the good qualities which an accomplished surgeon possesses, and which he displays in the treatment of the less unusual or less difficult cases he is in the habit of seeing perhaps daily. There are, in fact, certain instances which especially call for clearness and calmness of judgment, as well as promptitude of action and skill in acting, and these are, for the most part, cases of sudden emergency and of grave character, where there is but little time to be lost, and where, in all probability, the life of the patient, more or less, or entirely, depends upon the decision of the surgeon as to what line of practice he will adopt in such emergency. Such cases are, of course, those with which military and naval surgeons are much more familiar; but, every now and then, the civil surgeon meets with instances of injury of the gravest description, demanding the exercise of his utmost intelligence and skill. In severe lacerations and compound fractures of the extremities, the question amputating or attempting the salvation the limb is in many instances a most difficult and a most important one to decide upon; for that surgeon who alone looks the benefit of his patient is compelled weigh well the whole particulars of the case, to examine the various circumstances which may present themselves as arguments in favour of or against each mode of procedure, and, above all, to lay aside, to the utmost of his ability, any of those prejudices respecting practice which will creep in as it were by stealth into the mind almost every one, however comprehensive in knowledge or skillful in judgment and action. In cases of hernia, of wounded blood-vessels, and in other serious sudden emergencies, the surgeon knows once how to act, and what means employ: there are certain rules which guide him, and by following which cannot possibly go wrong: but, in the case of a compound fracture, or of a severe laceration of a limb, matters are different. There are no distinct and decided rules for his guide, and there necessarily must be a great deal of doubt uncertainty as to what mode of action should be pursued; and, although the experience of our great surgeons on these points has added much to our knowledge and has taught us to a great degree how act, still individual cases differ so much from another, and are presented to us under such varying aspects, that difficulty and doubt will always more or less exist as to how these individual cases should treated. Much improvement, nevertheless, has taken place of late years in this department of surgical practice: there is good and wholesome spirit of conservatism as regards surgery now abroad; and a limb which but a few years ago would have been ruthlessly sacrificed to the of knowledge of the surgeon, or rather to the little reliance placed by him upon the efforts of nature, is now saved by a fuller appreciation of these efforts, and by greater attention and patience being exercised. The very remarkable recoveries which we know do take place after severe injuries, even after a limb has been doomed to be taken off, attest the fact that much, very much, may still be effected by proper care, even when matters appear to be in the most hopeless condition: and it is this circumstance which should render the surgeon extremely cautious before he makes up his mind to resort to the removal of a member which, although perhaps much mutilated, may nevertheless possibly be saved; for it is a sad reflection on surgery, that a limb has been amputated where there may have been no real occasion for such a measure: it is a reflection, indeed, even if the patient recovers well and quickly after the operation, but it much less redounds to the credit of surgery if an operation which was unnecessary has been the means of destroying a life which might have been saved had other and milder measures been resorted to. There is doubtless the greatest error on this side; but nevertheless, as much caution and judgment is requisite in the surgeon so as not to allow himself to make mistakes quite in the opposite direction—namely, in trusting too much to nature; and thus allowing his patient to lose his life through the want of an operation. Every one who has had opportunities of seeing many instances of these severe injuries must have met with cases where regret has been shown that an operation had not been done, and where, if it had been done, in all probability life would have been saved. The great difficulty in coming to a conclusion as to what should be done depends mainly upon the uncertainty of the result of any severe injury. It is necessary, therefore, to act with extreme caution, and not to adopt any line of practice without having well scrutinised all the circumstances of a doubtful case. We have to relate an instance of severe injury of the lower limb which has lately been brought into the hospital under Mr. Partridge, and where, from various circumstances, some little difficulty was experienced in coming to a conclusion as to what was right to be done, but in which it cannot be doubted the most judicious course has been adopted.

A little beggar-boy, eight years of age, whilst in the public thoroughfare, was pushed down by a second party; and, whilst on the ground, a cart-wheel went over his left leg, and lacerated the extremity very severely. He was carried into the hospital at about mid-day on February 15th, shortly after the accident. On examination, a frightful laceration was discovered: from a third way up the thigh behind to the lower third of the leg below, the integuments were completely stripped off the subjacent parts, and the skin was hanging loose below; the posterior saphenous nerve and vein was torn across: in addition to this, the hamstring muscle across its belly on the left side was lacerated and torn through, the popliteal space was completely bared of its superficial coverings, and its great nerve and vessels were laid bare, but not injured. There was also a comminuted fracture of the tibia, which indirectly communicated with the external wound. The patient was placed in a warm bed, and the limb was bandaged up and placed on a splint, until the arrival of Mr. Partridge, who came about 2. The boy was then pallid and in a certain state of collapse. Mr. Partridge examined the little fellow's limb with the greatest care; and, after having deliberated with his colleague, Mr. Henry Lee, it was determined that it should be removed. This was effected the same afternoon by Mr. Lee, who used the circular method of operation, owing to there not being sufficient skin below for the flap. The operation has been perfectly successful: in a few days the wound healed by the first intention.

There can be no doubt as to the propriety of performing immediate amputation in this case, for the nature of the injury was such as did not justify the surgeon in saving the limb. If there had been any reasonable chance of doing so, Mr. Partridge would have given the patient this chance; there were two points in the case which rendered it somewhat difficult to come to a direct conclusion as to the question of amputation, and which at first sight would appear to be arguments against operation.

The patient was at that age at which we occasionally see and hear of most wonderful recoveries from the severest injuries. It is well known that the limb has been preserved to a youth of that age, even after that terrible accident, compound fracture of the thigh into the knee joint, an injury almost invariably necessitating amputation in the adult, and as far as our experience has shown, one always fatal if not resorted to. Another circumstance which held out some hope in favour of an attempt to save the life and limb of the patient, was the uninjured condition of the main vessels and nerves of the leg. These points, however, were taken into due consideration, and especially the latter; but Mr. Partridge was of opinion that if an attempt were made to save the leg, a great amount of sloughing would necessarily follow such bruising and lacerating as it had undergone, and that as the vessels were already laid bare in the popliteal space, they might become involved in the process, and thus the patient be carried off by hæmorrhage.

There was, moreover, such an immense detachment of skin, and loss of some portion, that it would have been impossible to cover the wound; and even if the little patient could have escaped the dangers of protracted and profuse suppuration, and those of sloughing and secondary hæmorrhage, there would have been, in all probability, such an amount of contraction;* that the limb might, after all, turn out to be almost useless to him. There can be no doubt, then, taking all these circumstances into consideration, that there was no reasonable hope of a successful attempt to save the limb, and that amputation alone was the resource left.

Aneurism of Leg and Foot.

In our last we gave the history of the case of aneurism by anastomosis of the leg and foot, in which Mr. Ferguson tied the femoral artery, and afterwards found it necessary to perform amputation of the thigh at its lower third, in consequence of gangrene having attacked the leg to a great extent. This patient is now fast improving, and has lost all the constitutional disturbance which was so severe whilst the mass of putrefaction was upon his body: there has been some difficulty in getting the stump to heal well, and into good shape, in consequence of the very sensitive condition of it, which prevented any forcible pressure being used at the time of dressing. The result has been that a portion of this bone protruded; but by great care and attention on the part of the house-surgeon, Mr. Luxton, it has become covered by granulations, and there will be a very fair stump. A very small portion of the skin of the anterior flap had sloughed, showing the great tendency there was to that process.

The limb amputated has been dissected by Mr. Edwards, and as good a preparation as could be expected under such circumstances has been made of it, and on Thursday Mr. Fergusson showed it to the pupils, and made some observations upon the nature of the case, and upon the treatment which had been put in force. The vessels of the part were in the following condition:—

The anterior tibial artery and vein were considerably enlarged all the way down; the posterior tibial artery and veins were very much enlarged in their calibre, and at the upper part of the leg was an anastomosis of vessels, forming a considerable tumor. The mass situated at the foot was composed of vessels sent off from the posterior tibial artery and vein, and by these branches anastomosing freely together.

Mr. Fergusson took this occasion to make some observations on the case, and to bring in review the more striking features connected with it, and with the treatment which had been pursued. He had always been of opinion that this disease was described under the term aneurism by anastomosis, and that it consisted in this case both of arterial and venous ramifications, and he especially thought, from the examinations he had frequently made, that the veins, to a great extent, were implicated: the preparation before them showed that such was the case. They must have recollected that when he had applied pressure upon the femoral vessels at the groin, that the limb increased rapidly and greatly in size, and that the vascular mass in the sole of the foot became much more prominent; this he had always conceived was evidence that the veins were, to a great extent, morbid in this disease, and this was the reason why he had not adopted a mode of treatment which he, at one time, had thought of putting in force,—namely, continual pressure upon the vessels of the groin: this was a plan of treatment which had succeeded in some cases of aneurism, and which might have been considered to be the best and fittest plan here, and it was that which would be probably accomplished with the least danger to the patient. But from the circumstance of the limb increasing greatly in size as soon as pressure was applied upon the vessels, and also from the fact of the patient experiencing great pain at the same time, he was induced to believe that pressure might do more harm than good, and therefore thought it better not to try it. It might even be a question as to whether he had done that which was best for the patient by tying his femoral artery; but he was of opinion that by interfering with the circulation in the artery alone, and not stopping it in the vein, he might bring about, or, at all events, assist in bringing about, the cure of the disease. It may even be objected that it was not necessary to resort to any severe measure, that the disease was not of sufficient gravity; but they must recollect that the patient had, on more than one occasion, experienced hæmorrhage from the tumor on the leg, and that his life had been endangered by it: under these circumstances, then, it was necessary to do something for the purpose of curing the affection. Before he had seen the case it was considered that amputation would be necessary, and his opinion had been asked as to the propriety of that measure; but, as he had before stated, he did not like to sacrifice the boy's limb without, at all events, trying some plan severe measure. It was, moreover, of little use to attempt to cure a portion of the disease only: thus it was that he did not adopt the plan of placing a ligature upon the anterior and posterior tibial arteries, a measure which he had at first thought of. Another objection to this practice was, that the vessels were not in a healthy condition, and an operation might have been attended with very serious results. He therefore decided to tie the superficial femoral artery, the result of which had, unfortunately, been the occurrence of mortification. He certainly had not expected that mortification would have taken place in this instance, because there was such a great amount of vascularity in the limb: if he had conceived the idea that it would have occurred, he would have preferred to place a ligature upon the anterior and posterior tibial arteries. The occurrence of mortification to such a great extent had driven him to perform amputation of the limb at the thigh,—a measure, indeed, of a severe nature, and only adopted through stern necessity. By this means the boy's life has been saved, and he had only done at the last, through necessity, that which had been proposed at first, and which he dare say many surgeons would have adopted. It is true that they might have done nothing beyond keeping the patient quiet, and heal up the sore on the foot; but then, when he returned to his work, he would probably experience a recurrence of hæmorrhage, which might destroy his life; and he did not think it right to let him run this risk. And although, under the treatment pursued, the disease had been removed from the patient at the expense of a limb, he felt that he had done all that it was in the power of surgery to effect in such cases.

Hernia.

Since our last report, which contained a case of hernia in which operation had been performed after the symptoms of strangulation had continued for five days, and where, unfortunately, it was found, after death, that ulceration of the constricted intestine had taken place, another case of femoral hernia in a state of strangulation has been brought into the hospital, and operated on by Mr. Partridge. The patient was a woman forty-six years of age; had had femoral hernia from childhood, but had never worn a truss, and had never suffered inconvenience from the tumor until about five days previous to her admission, when symptoms first commenced; and all this time was allowed to run on before decisive measures could be undertaken. When brought into the hospital she was in a very bad state. She had stercoraceous vomiting continually: her pulse was weak and rapid; tongue dry and brown. Mr. Partridge immediately operated upon her, as there was great pain in the tumor, and great tenderness of the belly: the tumor was of a reddish colour: there was not much tympanitis. The hernia was carefully cut down upon, the various tissues were dissected through, and the sac was opened: in it there was found a large hard and nodulated portion of omentum; this was turned up, and underneath it was perceived a knuckle of intestine much thickened and rough. Gimbernat's ligament was divided, and the intestine was returned: a portion of the thickened omentum was cut off. This patient appeared to be going on pretty well at first, but she became depressed, symptoms of peritonitis continued, and she sank in three days. On post-mortem examination all the signs of low peritonitis were discovered: the intestine which had been constricted was thickened and congested, but not gangrenous or ulcerated.

In this instance it was the most proper plan to open the hernial sac, for strangulation had taken place since so many days, and the symptoms were of that character that there might, with reason, be expected some serious disorganization or altered condition of the intestine which would render it unfit to be returned into the abdomen. Such, however, was not the case, although peritonitis had been existing for some time. Nevertheless, the laying open the sac did not produce the fatal event, nor even aggravate the mischief which was already existing. No operation of any kind would have saved the patient: it was clearly one of those sad cases which prove how dangerous an affection a strangulated hernia is when neglected, and how little it is in the power of the surgeon to effect any good when the symptoms are such as to show that serious inflammation of the peritoneum or intestine has already set in.

Correspondence.

ON THE NEW LONDON PHARMACOPŒIA.

Sir,—I now propose to enter somewhat minutely upon the changes which have been made in the new Pharmacopœia; and first with respect to the alterations in the names. Some of these are of no consequence, as they cannot cause mistakes, because there is nothing for which they can be mistaken: for instance—

Aqua Menthæ Pulegii is now Aqua Pulegii.

Bismuthi Trisnitras is now Bismuthi Nitras.

Ceratum Saponis is now Cer. Sapon. Co.

Confectio Piperis Nigri is now Conf. Piperis.

Linimentum Hydrargyri Comp. is now Linimentum Hydrargyri.

Pilulæ Ipecacuanhæ Comp. is now Pilula Ipecac. c. Scilla.

The pill masses throughout were Pilulæ, but are now called Pilulæ.

Sodæ Sesquicarbonas is now Sodæ Bicarbonas.

Spiritus Menthæ Pulegii is now Spiritus Pulegii.

Tinctura Catechu is now Tinctura Catechu Comp.

Unguentum Picis Nigræ is now Ung. Picis.

Many of the changes, however, are not thus unimportant, and are liable to occasion confusion, because there is something for which it may be mistaken: for instance—

Amygdala Dulcis is now Amygdala; but there is also an Amygdala Amara, which may be mistaken.

Confectio Rosæ Gallicæ is now Confectio Rosæ; but there is also another confection of roses—viz. Conf. Rosæ Caninæ.

Decoctum Cinchonæ Cordifoliæ is now Decoct. Cinchonæ; but, as there are two other decoctions of cinchona, there are several sources of error.

Extractum Cinchonæ Cordifoliæ is now Ext. Cinch., to which the same remark applies.

Extractum Colocynthidis Comp. is now Pilula Colocynth Comp., and the old title of Compound Extract is expunged.

Guiacum Resina is now Guiacum; but there is also Guiacum wood as well as resin in the Pharmacopœia, to either of which, therefore, "Guiacum" alone would apply.

Infusum Cinchonæ of the old Ph. is now Infus. Cinch. *Pallidæ;* whilst the present Inf. Cinch. is made from *yellow*, not pale bark; and therefore the prescriber does not know whether yellow or pale bark will be dispensed, nor can the dispenser know which is intended unless the edition of the Ph. is specified; and even then there is great danger of mistake on one side or other.

Tinctura Camphoræ is now Spiritus Camphoræ, which is an improvement.

Unguentum Hydrargyri fortius is now Unguent. Hydrargyri; but there were two mercurial ointments of different strength; and there is, therefore, a liability to confusion as to whether it is the strong or the weak which has had its name changed. The Ung. Hydrarg. Mitius is now expunged from the Ph.

Acids.

Acetum Colchici: the dried colchicu
is now ordered instead of the fresh, whi
will enable the druggist to make a uni
preparation at any period of the year. T
quantity ordered is diminished, so as
compensate for the moisture in the fr
cormus.

Acidum Nitricum. The commercial
(sp. gr. 1·42) is now ordered instead of
pure (sp. gr. 1·5), the strength now be
about three quarters of what it forme
was, in consequence of which, every
mula containing this acid is altered to
respond with the diminished strength
that the result may still remain the s
as before.

Acid. Nitric. Dilut. is the same
strength as formerly; but the proport
of acid and water ordered are altered.

Acid. Tannicum and Gallicum are
duced into the Materia Medica.

Æthers.

Chloroform is introduced.

Spirit of Nitric Ether is now ma
measure instead of by weight, the pr
tions employed remaining nearly as be

Alkalies.

Atropiæ Sulphas is introduced.

Morphiæ Acetas and Morphiæ H
chloras now have officinal s
which are unfortunately very nearl
as strong as the Dublin and Edi
solutions.

AQUÆ are made, as before, by dist
from the herbs, fruits, &c., or by t
but finely powdered flint or sand is
ordered, instead of magnesia, for effe
the trituration, by which the object
the latter substance are obviated.

CONFECTIO Amygdalæ. The alm
now ordered to be blanched, dried,
powdered, before being mixed with
sugar, &c., when the materials are
kept dry, by which process they keep
than formerly.

DECOCTUM Granati *Radicis* is now
duced, the old Ph. containing only
tion of the fruit rind, which does not
sess anthelmintic properties.

EMPLASTRUM Belladonnæ. The pr
tion of belladonna is doubled, and
plaster is substituted for resin plaster.

Emplastrum Opii. The proportion
opium is about three times as gr
formerly.

Emplastrum Potassii Iodidi is
duced.

Emplastrum Saponis now cont
little resin, which makes it more ad
than formerly, which is an advantage.

ENEMA Colocynthidis is now made
the simple instead of the compound

of colocynth, and the proportion of the cathartic is diminished by one-fourth.

Enema Tabaci. The tobacco is diminished by one-third.

EXTRACTUM Colchici is now introduced in addition to the Acetic Extract, which is still retained. The simple extract is made by crushing the fresh cormus, and evaporating the expressed juice.

Extractum Colocynthidis Co. is expunged, being now called Pil. Coloc. Co., the pill being, however, identical with the old compound extract.

Extractum Nucis Vomicæ (Alcoholic) is now introduced.

Extractum Sarzæ is now kept fluid (℔iiss. to Oj.), instead of being evaporated to dryness.

INFUSIONS are all made with boiling water, as before.

Concentrated infusions of pale and yellow bark are now introduced, one ounce of which will make an eight-ounce mixture of common infusion.

In my next letter I will point out the differences in the remaining portion of the work.

J. BIRKBECK NEVINS, M.D. Lond.

Liverpool, April 1851.

REGISTRATION OF DEATHS BY MEDICAL PRACTITIONERS.

[WE have received the subjoined letter in reference to some remarks recently made on this subject.]

SIR,—For what purpose the Registration Act was compiled need not be discussed; no one ever thought the *public* good had ny share in it. Nor is it now meet for us o consider whether private persons desire hat the diseases of their families—hereditary as we well know, though not so re-arded by them—should be recorded. The gislature has ordered it to be done; and is our part to obey, and to facilitate eir intentions. As a single member of e profession, I have ever readily given, d shall continue to give, that "cordial -operation" which the Registrar-General counts on obtaining," feeling that without the registration cannot effectually be made. ut as a private individual, claiming the ght to exercise my own judgment, I ust declare my opinion, however it may opposed to that of a leading journalist, at the objects of the law, far from being ilitated by the forms recommended by Registrar-General, are defeated by the tem adopted at his instance, and that registration of the *cause* of death can y be effectually made by the Registrar tituting *in all cases personal inquiry* (this rly was the *only mode* contemplated by the Act,) of the medical attendant, where the party received medical treatment, and recording when made (and I regret that the Act has not yet had the effect of increasing these), the results of post-mortem examinations. It is the Registrar-General himself who is the real "opposer of accurate registration;" it is his conduct alone that can realize your fears of the "Act being rendered a dead letter." I have sufficient faith in the good sense of the profession and the public to believe that when the obvious and correct mode of carrying a not very popular law into execution is brought to their notice they will cheerfully adopt it as the best—the only—means of promoting a scheme which will doubtless some day render lasting benefits to science.

Have you forgotten,—has the Registrar-General overlooked,—the use made of the system of medical certificates which came to light not many years ago on the trial of certain well-educated persons for forging wills and appropriating the property of the parties whose deaths had been registered in conformity with his expressed wishes? The deaths of those parties would not have been registered if the Registrar had correctly discharged his duty of personally inquiring into their cause. Is it unknown to the Registrar-General that one effect of this exposure has been to make the Bank of England refuse, though *contrary to law*, to recognize a Registrar's certificate as evidence of the death of a fund-holder? They know how little faith can be placed in the registration as at present conducted. Did it never occur to you, in reading the report of a coroner's inquest, to observe that the death had been registered on a medical certificate as arising from natural causes, and that the medical man who had given it thought these certificates were in such cases a mere matter of form? Suspecting no foul play, he had been too easily prevailed upon to certify. This would but seldom happen if personal inquiry were invariably made by a properly qualified registrar; and qualified he can only be by regular medical education, if it is intended that he should execute his office with advantage to the state, either as a branch of general political statistics, or in advancement of medical science.

But the registrars have departed from the course so plainly pointed out for their guidance. Misled themselves by the forms of the Registration Office, they have misled others; and as I have often seen oppression and injustice caused by this irregularity, I sought only "to call the attention of your readers to the actual state of the law," that they might follow it if they would, or, if they preferred, evade it now consciously, with the countenance of the Registrar-General. In addition to this, I do not hesitate to call attention to the fact that the Registrar-General has *exceeded his commission*; and I desire to render my slender help to protect those who are made to suffer through it.

If it had ever been your lot to be engaged in hospital or dispensary practice, you could not have failed to witness the ill-usage which the poor and heart-broken recipients of those useful charities often undergo at the hands of the registrars on the occasion of a death in their families. They report the death to the Registrar—their whole conduct is open; they have nothing to conceal—they tell who was the medical attendant, and they are informed that *they* must obtain a certificate from the doctor, and without this the death cannot be registered, nor their relative buried. Thus, at a time when their thoughts and their little leisure are amply occupied with the business of a funeral, which, even for a poor person, is burdensome enough, they must journey to a distant part of the town—and, in the country, often to a still greater distance—to the doctor's house, often a second, or even a third time. Is this to be applauded? Are *they* to be forced to do the Registrar's work? Are they to be taught, and that by a person deriving his authority through the Secretary of State, that Christian burial—aye, and Christian baptism, too (for there is a registration of births as well as of deaths), if not superseded—is to be obtained only by favour of these certificates? Is the church-door no longer to be "the door of every poor man in the parish?"

Equally desirous with yourself to uphold and to advance the honour, the respectability, and the emoluments of the profession, I cannot agree with those who call on the Registrar-General to use the machinery of the Act for the purpose of crushing unqualified pretenders; and I cannot withhold the expression of disgust with which I have seen a Registrar produce a certificate given to him by one of these persons to be used on the occasion of such a prosecution, as an evidence of his having practised unlawfully. It is a perversion of the purposes of the Act, deprecated, I believe, almost universally. Whatever plan the Legislature, acting in defence of the weaker portion of the public, may ultimately adopt for restraining unqualified practice, these are not the means we should commend. Our only weapons should be the cultivation of our profession as a science, the courtesy of gentlemanly bearing towards one another, and that indescribable manliness of carriage which commands the full confidence of a patient, so essential to the successful practice of medicine. All others the public regard with suspicion, as petty instruments of oppression, and, caring little to learn the merits of a dispute, they take part with those whom they think unjustly oppressed, and repose in them the confidence which we have been too little solicitous to retain.

I am, sir, your constant reader,
D. R.

April 5, 1851.

⁎ We cannot concur in the views o our correspondent. If the Registrar of district does not in all cases institute pe sonal inquiry, this is no reason wh medical practitioner should decline giv a written certificate to the best of his kno ledge, and according to his conscientiou belief. By refusing it, he only adds to th difficulty of the position in which Registrar-General is placed, and transf the registration of the causes of deat *ignorant* and *unqualified persons*. Bes if we understand the views of "D. correctly, as expressed in a former let he would do for a fee, irrespective of sonal inquiry by the Registrar, *that* he will not now do without a fee. fact that medical certificates have procured from ignorant and careless sons, and that they have been made servient to the purposes of fraud, do affect the question. It is the duty medical man to certify, either *verba* *in writing*, to the best of his belief from a careful consideration of the "D. R." prefers the former, not, as apprehend, because it is the more co plan, and less liable to error, but be the latter, in his opinion, gives rise to trouble to the practitioner, and no re neration is allowed by law. The leg sponsibility incurred by making a statement is the same in the two case

Medical Intelligence.

STATISTICS OF THE GERMAN UNIVE

A STATISTICAL analysis of the num students in all the German Unive with the exception of those for Konig Keil, and Rostock—the numbers of have not been officially published—fur for the term about to expire the fol results:—In all the universities, ta lectively, there have been inscribed registers 11,945 students. The universities may be classed, accordi the number of students at each, following order:—Berlin, Munich, Leipsic, Breslau, Tubingen, Gött

Wurzburg, Halle, Heidelberg, Giessen, Erlangen, Friburg, Jena, Marburg, Greifswalde. Berlin has 2,107 students, and Greifswalde only 189. The number of those studying the law is 3,973; of the theological students, 2,539; of those pursuing the study of philosophy and philology, 2,357; of the medical students, 2,146; and there are 549 engaged in the study of political economy. The university of Halle reckons the greatest proportional number of theological students, there being 330 out of 597; Heidelberg has the most students of law,—viz., 349 out of 557; Wurzburg, the most students of medicine,—viz., 271 out of 871; Jena, the most students of theology,—viz., 132 out of 358. The greatest number of foreign students is to be found at Heidelberg, Göttingen, Jena, Wurzburg, and Leipsic. The number of students has increased at Berlin by 119; at Wurzburg, by 47; at Breslau, by 43; at Heidelberg, by 35; at Friburg, by 27; at Bonn, by 11; at Tubingen, by 6; at Leipsic, by 5; at Griefswalde, by 3; at Erlangen, by 1; while they have diminished in number, at Göttingen, by 49; at Halle, by 39; at Munich, by 39; at Jena, by 35; at Giessen, by 25; and at Marburg, by 24.

FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS. QUESTIONS AT THE EXAMINATION ON THE 7TH APRIL.

In Anatomy and Physiology.

1. Describe the structure of the wrist-joint. State what tendons, vessels, and nerves, cross the joint on the palmar aspect; describe their position and relative situations.

2. Describe the duodenum, specifying ts situation, course and relations; its component structures and the sources of its bloodvessels and nerves.

3. Describe the course and relative situ-tion of the subclavian and axillary ar-eries on the right side; mention the ranches given off by them; state by what arts the subclavian, external to the scale-us, is covered.

4. Enumerate the blood-vessels and erves proceeding to the lower extremity, nd describe their relative situations and onnexions at their exit from the pelvis.

5. Describe the vessels and nerves of the bit, the sources whence they are derived, he apertures through which they enter the bit, and their distribution.

6. Describe the position and relative situ-ion of the viscera contained in the female elvis, the peritoneal reflections and liga-ents by which they are supported.

In Pathology and Surgery.

1. Give the diagnosis of tumors of the male breast dependent on chronic inflammation, chronic mammary tumor, and scirrhus.

2. Explain the leading rules of practice in the treatment of traumatic gangrene, and gangrena senilis.

3. What are the consequences to be apprehended when retention of urine dependent on stricture in the urethra is not relieved? Describe the treatment suited to its various stages, whether by the use of instruments or other means.

4. Describe the circumstances under which the application of the trephine may be required after an injury to the skull by violence.

5. What are the dangers which attend incised wounds of the throat? Describe the treatment of these wounds.

6. When the posterior tibial artery, where covered by the muscles of the calf, has been recently wounded, what treatment would you adopt? And if there were secondary hæmorrhage, and the parts in a diseased state, what practice would you follow?

PRELIMINARY EXAMINATION IN CLASSICS AT APOTHECARIES' HALL.

THE Court of Examiners have resolved—

1. That a preliminary examination for the junior students of the medical profession would be desirable as an important auxiliary to their subsequent medical studies.

2. That such examination should comprise an inquiry into the student's knowledge of the Latin and Greek Languages, and of the Elements of Mathematics.

3. That students should be admissible to such examination at any period from the date of their apprenticeship to the completion of the first winter session of their curriculum.

4. That such examination should in the first instance include the following subjects, viz.:—

I. The first Book of Virgil's Æneid and Cicero's Oration for Milo.

II. The Greek Testament, to the end of the Acts of the Apostles, or, The first Book of Xenophon's Anabasis—at the option of the candidate.

III. Algebra, as far as simple Equations.

IV. The first Book of Euclid's Elements.

5. That students who pass this examination satisfactorily, should not be subject to any subsequent examination in Latin, except the Pharmacopœia Londinensis and Prescriptions.

6. That students who have not passed this examination, should, for the present, be allowed, as heretofore, to undergo the preliminary examination in Celsus and Gregory after they have completed two winter sessions of their medical studies.

ACTONIAN PRIZE.

THE Actonian prize of one hundred guineas, for the year 1851, has been awarded, by the Managers of the Royal Institution, to Mr. Wharton Jones. There were seventeen competitors for the prize.

MEDICAL FEES AND LIFE INSURANCE OFFICES.

WE have received the following announcement from the United Kingdom Life Assurance Company (8, Waterloo Place, Pall Mall, London) :—"The Board of Directors hereby give notice that, taking into consideration the valuable information afforded them at all times by the private medical attendants of parties proposing insurances, they have resolved from this date *to pay the private medical referee* a fee for such information."

⁂ It is creditable to the Office that, while they thus intend to pay for that by which they profit,—a medical certificate,—they do not offer a bribe to medical practitioners by allowing commission on policies recommended. We invite medical practitioners to be careful how they accept such a commission from other offices. If a trial should take place, they will appear in a novel and not very creditable position.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 11th inst.:—Messrs. W. J. Rowland—E. Umphelby—T. H. Hartshorne—T. Spencer—J. H. Bywater—E. A. H. Head—B. Baker—J. Rouse—J. H. Tickell—J. J. Bird.

OBITUARY.

On the 9th inst., at Bathampton, Somerset, Francis Lémann, Esq., M.D.

THE INFLUENCE OF THE HOUR OF THE DAY ON THE BIRTH AND DEATH OF MAN. BY DR. CASPER.[*]

"*Nichts ist zufall!*" ("nothing happens by chance") is the philosophical motto which the author has prefixed to this essay; and it is in the spirit of this aphorism that Dr. Casper proceeds to trace out a relation between the hour of the day and the times of birth and death.

1st. *The influence of the hour of the day on* BIRTH.—Dr. Casper refers to the speculations and observations on this point by Ranken, Quetelet, Buek, Osiander, Froriep, and others, all of whom concur in the conclusion that more children are born in the *night* than in the day-time.

The facts from which Dr. Casper has drawn his conclusions are 809 births, which occurred in the Berlin Lying-In Institution from 1830 to 1833. These, arranged according to the time of day, gave following results :—

Hours of day	1	2	3	4	5	6	7	8	9	10	11	12		Totals—809
Numbers born in the earlier hours of the day	39	41	36	44	32	38	27	39	29	29	29	34	417	
Numbers born in the later hours of the day	44	30	38	41	25	28	33	26	30	31	29	37	392	

From this table it appears that the difference in the number of births at the two periods is not so great as it was supposed to be.

The following table is reduced from a more extended table by Dr. Casper, of 5310 cases, with the relative number of births, recorded by Quetelet, Buek, Ranken, and himself, as having occurred within certain hours :—

Hours of birth	A.M. 12 to 3	3 to 6	6 to 9	9 to 12	P.M. 12 to 3	3 to 6	6 to 9	9 to 12
Actual No.	857	727	654	582	589	547	658	696
Proportion per 1000	161	137	123	110	111	103	124	131
Proportion per cent.	16·1	13·7	12·3	11·	11·1	10·3	12·4	13·1

Here it will be seen that the smallest number of births occurred between 9 o'clock in the morning and 6 o'clock in the evening; while the largest number occurred in the three hours following midnight. The precise period of the minimum number of births has varied among these observers. Thus with Ranken they were from 9 A.M to midday; with Quetelet, from midday to 3 P.M.; with Buek, from 3 P.M. to 6 P.M.; and according to Dr. Casper, from 6 to 9 P.M. This variation must be attributable to the insufficient data of the observers rather to any irregularity in nature. It will be seen from the above table, that about 125 per 1000 are born every three hours. From the same figures it appears that about the same proportion are born between the hours of 6 and 9 morning and evening; that the maximum about midnight gradually declines to the minimum from 3 to 6 in the evening.

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[*] This paper is an abstract of a section of Dr. Casper's work, the Denkwürdigkeiten zur Medicinische Statistik und Staatsnarzeikunde.

Another table, which includes five hundred and thirty-one additional cases by Guiette, makes the relative proportion of births in every six hours to be as follows:—midnight, before midnight, forenoon, and afternoon.

. Dr. Casper attributes the greater proportion of night over day births to the physiological fact, that it is during the night that the regeneration and repair of the day's wear takes place, and that during the hours of sleep the greater proportion of blood-globules are developed. The author further states, in confirmation of his theory of the period of bodily renovation in relation to birth, that an opposite relation may be shown to obtain,—*scil*, that the deaths are fewest in the night, and more numerous in the earlier hours of the day.

The following table gives the hours of the commencement of labour, and shows the influence of the modifying circumstances of the sex, of the child, and first labour :—

Hours of the commencement of labour-pains.	Male Children.		Female Children.		Both sexes
	First-born.	Second and other.	First-born.	Second and other.	
From					
12 to 3 A.M.	31	24	32	32	119
3 „ 6 „	25	17	29	25	96
6 „ 9 „	25	18	16	20	79
9 „ 12 „	26	20	24	17	87
12 „ 3 P.M.	26	15	20	21	82
3 „ 6 „	25	26	21	21	93
6 „ 9 „	33	20	41	19	113
9 „ 12 „	32	30	39	17	118
Total . .	223	170	222	172	787

Here a decrease and increase occur with considerable regularity throughout all the columns for certain periods of the day; the maximum of labours beginning between the midnight hours of twelve to three, and the minimum between those of six and nine in the morning. The hours from six in the evening to three in the morning include the greater proportion of labours, and the largest number of these begin in the first part of the night. The preponderance of night over day is greater in relation to the beginning of labour than to the hour of birth; for, as the proportion of night-births in the above-named institution was 1·05 to one day-birth, the proportion of cases in which labour began in the night was 1·31; and, even among female first-born children, 1·75.

Of the labours that began in the *day*-time, the greater proportion were *male* births; while those that began in the *night* yielded a large number of *female* children; in the relative number of 181 males to 160 females, the labours beginning in the day-time; and 212 males to 234 females, the labours commencing during the night. This is especially observable in first-born children.

With respect to the duration of labour, Dr. Casper finds that the labours which begin during the night last, on an average, eighteen hours; while those which commence in the day-time last about twenty hours.

Where the fœtus was born dead, the maximum of births did not fall, as in births generally, during the hours of midnight, but from six in the evening to midnight, and the minimum existed during the few hours after midnight.

The influence of the hours of the day on mortality.—The observations and calculations of Dr. Casper lead to the conclusion that the maximum of deaths occurs in the fore part of the day, and the minimum between evening and midnight. The explanation of this, Dr. Casper seeks in the analogy between sleep and death: sleep, being the period in which great organic changes occur, is, *pro tanto*, favourable to the dissolution of the individual.

The diseases which are the causes of death exert a modifying influence on the hour at which death occurs. The origin

	From midnight to 6 A. M.	From 6 A. M. to noon.	From noon to 6 P. M.	From 6 P. M. to midnight
Acute Diseases.				
Fevers	64	75	66	66
Inflammations . .	160	164	182	160
Exanthemata . .	44	45	43	59
Chronic Diseases.				
Phthisis	186	240	215	186
Atrophy	347	381	282	255
Hæmorrhages . .	163	186	161	121
Chronic Catarrh .	41	47	34	24
Dropsies	90	119	93	64
Neuroses	267	267	191	179
Other Chronic Diseases	76	102	89	85
Totals { Acute	268	284	291	285
Totals { Chronic	1140	1344	1065	914

and progress of diseases, their exacerbations, and remissions, are frequently observed to occur at certain times of the day. The influence of these on the hours of death is shown by the preceding table of 5591 deaths from various diseases.

The next table exhibits the variations from the general rule, in the same class of diseases, on the side either of excess or deficiency, as indicated by the signs + or −.

	From midnight to 6 A. M.	From 6 A. M. to noon.	From noon to 6 P. M.	From 6 P. M. to midnight
Acute Diseases.				
Fevers	−16	−15	+ 1	+30
Inflammations . .	−12	−45	+31	+26
Exanthemata . .	−22	−55	−18	+95
Chronic Diseases.				
Consumption . .	−27	− 1	+17	+11
Atrophy	+ 5	+18	−15	− 8
Hæmorrhages . .	+ 6	+ 4	+12	−22
Chronic Catarrh .	+29	+31	−10	−50
Dropsies	− 6	+17	+11	−33
Neuroses	+43	+ 6	−32	−17
Other Chronic Diseases	−36	− 1	+10	+27

The following are briefly the conclusions of Dr. Casper on the influences investigated by him :—

1. *As to births.*—More births occur from nine o'clock in the evening to six o'clock in the morning than during other hours of the twenty-four. Labour-pains commence more frequently between midnight and three o'clock in the morning than at other times. Of those births which terminated during the day, the majority were male children. Labour is longer if the pains begin in the day-time than if it commence during the night. This influence is more striking with stillborn than with living children.

2. *As to deaths.*—The maximum general mortality occurs during the earlier hours of the day, the minimum in the evening. Of special causes of death, the relative mortality with reference to the time of day presents many variations. Inflammatory diseases present their maximum in the after-part of the day; fevers and exanthemata in the earlier hours of the night; hæmorrhages in the fore part of the day and in the afternoon; and the neuroses generally in the hours after midnight. x

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

(The List will be given in the following No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·83
,, ,, ,, Thermometer[a]	40·3
Self-registering do.[b] .... Max. ·65 Min.	21·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·24.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 10° *below* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 12.

BIRTHS.		DEATHS.	
Males....	779	Males....	542
Females..	757	Females..	500
	1536		1042

CAUSES OF DEATH.

ALL CAUSES	1042
SPECIFIED CAUSES	1031
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	184
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	54
2. Brain, Spinal Marrow, Nerves, and Senses	136
4. Heart and Bloodvessels..........	38
5. Lungs and organs of Respiration	202
6. Stomach, Liver, &c.	59
7. Diseases of the Kidneys, &c.	11
8. Childbirth, Diseases of Uterus, &c.	6
9. Rheumatism, Diseases of Bones, Joints, &c.	6
10. Skin...........................	4
11. Premature Birth	35
12. Old Age	44
13. Sudden Deaths..................	2
14. Violence, Privation, Cold, &c....	16

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	12	Convulsions........	38
Measles............	28	Bronchitis	89
Scarlatina	13	Pneumonia	85
Hooping-cough	50	Phthisis	138
Diarrhœa..........	14	Lungs	11
Cholera............	0	Teething	13
Typhus............	25	Stomach	5
Dropsy	20	Liver..............	7
Hydrocephalus	39	Childbirth	2
Apoplexy	29	Uterus	5
Paralysis	38		

REMARKS.—The total number of deaths was 211 *below* the average mortality of the 15th week of *six* previous years.

NOTICES TO CORRESPONDENTS.

"Iatros."—It is not in our power to give a satisfactory answer to such a question.

Dr. W. B. Ryan.—If our correspondent will forward an account of the analysis, it shall be appended to the paper.

The communications of Mr. Odling, Dr. Barclay, Dr. Burke Ryan, and Dr. Ogston, are postponed until next week.

London Medical Gazette.

Lectures.

THE GULSTONIAN LECTURES

For 1851.

Delivered at the Royal College of Physicians.

By Edward Latham Ormerod, M.D.,

Caius College, Cambridge; Physician to the Brighton Dispensary.

Lecture III.—Part I. (continued.)

IV. Symptoms and Treatment of Valvular Disease of the Heart (continued).

I. ***Cerebral complications.***—To the description of the cerebral complications of disease of the heart which Dr. Burrows[*] has given us, there is little to add. I would only, as having drawn my experience from the same field—namely, the wards of St. Bartholomew's Hospital, express my humble confirmation of the correctness of his remarks.

Of the frequency of the connection between apoplexy and valvular disease of the heart there can be no doubt: it has been made matter of arithmetical demonstration. But it is surprising how what is now so clear should have so long remained unknown, or have been even denied; and the probable reason of this circumstance, as involving a great point of pathology, is worth investigation.

Lallemand[†] says that in no cases of apoplexy which he has read or observed has he ever found contraction of the aortic orifice, which yet he considers to be the most common cause of hypertrophy of the heart. For that, under these circumstances, the increased force of the heart is lost in overcoming the resistance occasioned by the contraction, and does not affect the brain. Hence he infers that it is only in cases where the obstruction causing the hypertrophy does not lie between the left ventricle and the carotids that sanguineous apoplexy can ensue; and he adds that it is not usually in the apoplectic cases of heart disease that we observe the livid lips and cheeks, or the œdema, which point to obstruction of the circulation in the veins.

As far as the above statement goes, I believe it is literally correct. Real sanguineous apoplexy is very rare under the circumstances; but the symptoms of apoplexy—sudden coma and hemiplegia, for instance—are not quite so rare in connection with advanced valvular disease of the heart as might be supposed from a less literal interpretation of Lallemand's statement? What, then, is the nature of the changes on which the symptoms depend?

There appears, from all that I have been able to observe or to read of the observations of others, no reason to question the accuracy of the conclusion which Dr. Burrows has expressed, that "hypertrophy of the left ventricle must be admitted as a powerful predisposing, or even exciting, cause to apoplexy and sudden hemiplegia."[*] But where the hypertrophy is not more than sufficient, from whatever cause, to make good the valvular imperfection, we should be wrong in expecting *commonly* to find the results of increased arterial pressure. And sanguineous apoplexy, as already observed, is rare under such circumstances: from whence we may also infer that venous congestion is not one of its common causes.

The evidence of the older writers, as far as I have been able to consult them or the conclusions from them, is negative on this point: but at least it may be inferred from their silence that they did not connect sanguineous apoplexy with advanced and obvious disease of the heart. An analysis, however, of the cases detailed by Andral[†] and Bouillaud,[‡] the most available, for the present purpose, of those invaluable masses of detailed observations in which the French medical literature is so much richer than our own, give a very striking result, which goes far to explain the cause of the discrepancy between former and more recent observation as to the connection between the symptoms of apoplexy and those of valvular disease of the heart.

From these two writers we may collect twenty-eight observations of cerebral disease of limited extent accompanying disease of the heart. Fourteen of these cases had softening of, and fourteen had sanguineous effusion into, the substance of the brain. This different nature of the changes may be observed to present a close correspondence with the varying amount of the symptoms of the valvular lesion. Of the exact nature of the valvular lesion itself, however, the

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[*] On the Cerebral Circulation, &c.

[†] Recherches Anat.-path. sur l'Encéphale, tome i. p. 44, note.

[*] Op. cit. p. 121.

[†] Clin. Méd. tome v. 4me éd., illustrating sanguineous apoplexy and softening of the brain generally.

[‡] Des Maladies du Cœur, tome ii. 2me éd. All the cases of valvular disease in which cerebral disease referable to either of these two heads occurred.

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details do not always allow me to speak. The cases may be thus arranged:—

Sanguineous Apoplexy.

Andral 11 cases, age 57·5.	10[*] had no general symptoms of valvular disease, the heart being more or less hypertrophied. 1 had anasarca.
Bouillaud 3 cases, age 54·6	1 no general symptoms, 1 anasarca. [&c. 1 pulmonary complication.

Cerebral Softening.

Andral 8 cases, age 59·2.	4 no general symptoms. 4 anasarca, dyspnœa, &c.
Bouillaud 6 cases, age 32·3.	All had more or less general symptoms of valvular disease.

The general symptoms of valvular disease were therefore

	Apoplexy.	Softening.
Present in . . .	3	10
Absent	11	4
	—	—
	14	14

I fear to weaken the force of the conclusions of this table by any comments, or by any verbal expression of what the figures so clearly convey.[†]

My own experience on this subject, though very limited, is quite in accordance with the above. Of four cases of dissection after death from sanguineous apoplexy, with disease of the valves of the heart, the valvular affection was small in degree and simple in kind, and the heart had met the imperfection by hypertrophy of its muscular walls.

Of four dissections after death from extreme disease of the heart, with cerebral symptoms—namely, hemiplegia—in two there was softening of the brain, and in two no explanation at all was found of the paralysis, which, however, it should be noticed, happened in one of these eight months before death, and had been recovered from.

I believe that, without analysing other series of cases, I might confidently appeal to each one's experience for a confirmation of the statement, that it is in comparatively early cases, where the general symptoms of heart disease are scarcely developed, that sanguineous apoplexy most commonly occurs; not in those patients whom a cold winter sends into our hospitals, loaded with dropsical accumulations, and with venous blood,—cold, livid, and struggling for breath. These are rather the subjects of softening of the brain, or of serous effusion, than of sanguineous apoplexy.

If this be correct, it is easy to see how the connection between valvular disease of the heart and apoplexy may have been overlooked at a time when neither auscultation nor morbid anatomy lent such aid to pathology as at present in the recognition of the physical signs and morbid changes, respectively, of valvular disease. And it is, moreover, easy to see how, when this connection was asserted, it should have been denied, on the unjustifiable grounds, that, if the two diseases were really connected, the greater the disease of the heart the more frequent should be the occurrence of apoplexy. But, indeed, the question was not capable of a true solution on such grounds; and a more thorough examination of the correct premises has returned a different answer.

There are other affections of the brain depending on valvular disease besides those which leave organic traces in the forms of cerebral softening and apoplexy. In some of these venous congestion plays a considerable part, while others seem referable to increased arterial pressure. Dr. Latham[*] has described two of these. He speaks of a state of things where "the heart, by the simple vehemence of its action, has the power to kill, and to kill through the medium of the brain." There is intense headache, sleeplessness, delirium, and death by exhaustion. This is the effect of increased arterial pressure, which we must carefully discriminate by the history of the case, and the character of the pulse, may be, (for auscultation will help us but little) from the symptoms of simple exhaustion: for the alternative of life or death may depend on the correctness of our diagnosis.

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[*] One of these ten cases had œdema at the time of death, which followed two years after the attack of apoplexy.

[†] Dr. Law (Dublin Quarterly Journal, vol. xvii. p. 181) has called attention to the importance of the distinction, in cases of paralysis accompanying disease of the heart, between the effects of increased and those of diminished arterial pressure on the brain. He refers sanguineous apoplexy to one, and softening to the other cause. He attributes the first of these to the action of an hypertrophied, the other to that of a debilitated or inefficient heart.

Dr. Bright (Med Reports, vol. ii. p. 195), again, regarding the subject from another point of view, has taken a case of extreme disease of the heart as furnishing an illustration of that form of softening of the brain where, "from obstructed circulation, the part undergoes a change analogous to gangrene—the more genuine form of the disease" (Case lxxxi). There appears good reason, however, for admitting the existence of another cause of this particular change. It would seem, in some cases, to be more properly referable to that form of disease known as capillary phlebitis in other organs, than to gangrene.

But in speaking of the conditions of the heart which co-exist, by preference, with one or other of these forms of disease, there is some danger of overlooking a most important change of the vessels which is connected equally with both apoplexy and softening—namely, an atheromatous state of the arteries of the brain. There is no doubt of the close connection of this condition alike with disease of the valves of the heart, with sanguineous apoplexy, and with softening of the brain. See Watson, Lectures, i. p. 516; Abercrombie, Dis. Brain, p. 241, referring to Scarpa; Paget, MED. GAZ. 1850, on Fatty Degeneration of the Small Vessels of the Brain.

[*] On Diseases of the Heart, vol. i. p. 326; ii. p. 336.

Another form of disease presents the symptoms of apoplectic coma, suddenly supervening, and when it passes away leaving no paralysis behind. Here "neither serum nor blood has been let loose upon the brain. The whole mischief is effected by the blood still within its proper vessels, by its congestion, retardation, or remora." In this case "the disease of the heart consists of passive dilatation."

Then there are all the symptoms, if not actually attaining to either of these conditions, at least of sufficient importance to demand especial notice,—such as headache, vertigo, drowsiness, mental anxiety, and the spontaneous relief of these—epistaxis. There is epilepsy, always terrible, and not least so when connected with such a hopeless cause as valvular disease of the heart. And there is syncope—a symptom closely connected with advanced disease of this organ, and not uncommonly the mode of its fatal termination. To this, under the head of failure of the heart's action, there will be occasion to recur.

There is little to be added to what Dr. Burrows* and others† have told us of the pathology and treatment of these affections. As far as a few words can express a general rule of practice in these cases, it is this:—In all cases of disease of the heart we can scarcely pay too much attention to cerebral symptoms which might seem trivial when viewed in connection with disease of any other organ. Under these particular circumstances, drowsiness, headache, and even mental anxiety, claim a consideration which they do not ordinarily possess; and the rule of letting secondary symptoms alone, unless they are dangerous to life, does not apply, for the contingencies which these point to really are dangerous to life in the highest degree.

But when, from whatever cause, the symptoms to be dreaded—namely, those of apoplexy—have supervened, the rule must in some sort be reversed. Now the care must be, not to over-treat the organic disease, as it was before not to under-treat the threatening symptoms. For, not to do more than mention the danger arising from the excessive reaction of an hypertrophied heart on the injured brain, it must be remembered that the lesion may be either softening or sanguineous effusion. And without expressing any definite opinion as to the essential nature of softening, it approaches too near to that of gangrene* for us to venture rashly on reducing the already weakened constitutional powers by over-active treatment.

II. *Pulmonary Complications.*—The pulmonary affections dependent on valvular disease of the heart may be either primarily referable to venous obstruction, or they may be contingent thereupon. Of this latter class are pneumonia and bronchitis, pleural effusion, or pulmonary œdema; and to these must be added, though its practical importance could scarcely demand even this passing notice, pulmonary apoplexy.

It is not so easy to assign an exact place to pulmonary emphysema† among this class of complications of valvular disease. Probably, in the majority of these cases, it is only secondary to the pulmonary obstruction, chronically and generally resulting from causes similar to those which induce its development in an acute form in the uninflamed parts of the lungs of children suffering from pneumonia.‡ We habitually connect the idea of common asthma with pulmonary emphysema, with which so often, and so often with which alone, it coincides. But in the more complex case of cardiac asthma, I think we need to be reminded of the separate value of emphysema as a possible element of the mixed results which we are called upon to treat under this name. I would not anticipate on this subject what falls under the head of the treatment of abiding pulmonary obstruction. I would here only point to the existence of pulmonary emphysema, as explaining, in some cases, much of the dyspnœa attendant on valvular disease, and in that exact proportion, it must be added, limiting our expectations of the curative effects of our remedies.

With regard to the other complications separately; and first to pleural effusion. Of this there is little to be said here, for the knowledge of its existence in nowise affects the treatment or the prognosis of the cases in which it occurs. Doubtless, it is a very serious complication, but my observation has not led me to think worse of the cases in which it is found* than of others, where large effusions exist in the areolar tissue or serous cavities. Nor has observation shown me any more particularly successful method of removing it.

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* Op. cit.

† See especially Corvisart, Des Maladies du Cœur, p. 141, 3me éd.

* See Abercrombie, Dis. Brain, p. 22, 3d ed.

† I am indebted to Dr. Hawkins for recalling my attention to the frequency of the coincidence of valvular disease with this condition, which I had otherwise omitted to notice in this place.

‡ See Dr. West's lectures on the Diseases of Children, p. 178. I need scarcely guard myself against being supposed to adopt generally this mechanical (so to call it) explanation of emphysema. It must be regarded, indeed, from such a point of view in the present case: but I would refer to Dr. Budd's paper on this subject (Med.-Chir. Trans. vol. xxiii. p. 37), and to the authorities there quoted, for a more comprehensive survey of this interesting pathological question than the present purpose requires, or my limits permit.

Pneumonia arising under these circumstances has more claims to distinct notice. When occurring at an early period of valvular disease, it is, as far as I have seen, very amenable to the ordinary medical treatment, but singularly liable to recur after its removal. More commonly, however, it occurs at a later period, under conditions which forbid any treatment especially directed for its removal. The very unfavourable nature of its prognosis under such circumstances is explicable, partly on general grounds, and partly by the tendency which it then displays to run into the third stage. More than all the other pulmonary complications of valvular disease, pneumonia is to be considered in the light of an accident,—but as an accident of the most serious nature, always more and more liable to recur, and always more and more dangerous on each recurrence.

As to the other forms of pulmonary secondary complication—namely, bronchitis and pulmonary œdema—their consideration cannot well be separated from that of their immediate cause—their primary form, pulmonary obstruction: for, practically, they are little more than aggravations of this habitual condition, whether we regard their symptoms or their several characteristic morbid changes.

Without underrating all the means and appliances for arriving at, and availing ourselves of, a more accurate diagnosis, I believe that I should be vaunting a refinement which can find no place in practice if I spoke of anything more definite on this subject in connection with valvular disease of the heart than pulmonary obstruction. Nosological distinctions almost entirely fail us here, as after death by fever. They cannot be accurately maintained in the gorged, œdematous, and obstructed lung, by dissection; and they certainly do not afford us the safest grounds for treatment. The general principles of treatment, and what each of these affections has in common, claim attention rather than the specific differences which secondary causes may have developed in the individual case.

Pulmonary obstruction, then, to adopt this most general term, may be considered in two points of view,—as a temporary or as an abiding condition. Its symptoms as a temporary condition, induced suddenly by violent exertion, or other passing cause, are familiar to us all. It is an accident to which all are more or less liable; and art can do little more, whatever the cause, than aid in maintaining that perfect rest which nature does her best to enforce. But when pulmonary obstruction, though it be temporary only, is induced by the ordinary exertions of life, itself becomes a matter of serious consideration, and the detection of its cause of the highest importance.

On the present occasion we have only one cause to deal with,—namely, valvular disease of the heart. Under these circumstances, it is but a short stage from these temporary attacks to that affection known as winter cough, when the obstruction is present for a considerable portion of the year. And another still shorter step brings us to where this has become the abiding state of things, on which attacks of bronchitis or pneumonia are engrafted from time to time, and under one or other of which life at last terminates.

Still, however short these stages may be, in the treatment of such a case, apart from all other considerations, the question of the temporary or abiding nature of the pulmonary obstruction is of importance. For, if it be only temporary we may venture on more active measures, trusting to the reparatory powers of the constitution during the interval before the next attack, than we could do if the diseased condition were permanent.

The mode of relief which nature adopts in cases of pulmonary obstruction, that, namely, by local extravasation of blood inducing hæmoptysis, is the most direct. But there are many objections to allowing the congestion thus to relieve itself. For the existence of blood and serum in the bronchi tends largely to aggravate the obstruction to respiration. And its removal necessitates frequent violent exertion in coughing. For the serous effusion, to bring relief, must be very abundant, and the expectoration frequent and copious. And though serous excreation may be easy enough, yet blood so effused does not usually come up quietly, being loose, as we say; but it is tenacious, being bound up with the glairy mucus which results as a secretion from that conditionof parts which induces the hæmorrhage. The relief obtained by abstracting blood, less directly than from the congested membrane itself, may not be so great, but it is incomparably safer, and cupping or leeches to the chest will generally effect the object in view of relieving present pulmonary obstruction. This, however valuable, is yet a mode of relief which we cannot indiscriminately adopt; its fittest application is to the cases where at present the affection is only temporary.

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* These remarks apply to the chronic cases. Probably each one, from his own experience, could supply instances where patients suffering from acute inflammatory disease of the heart have been carried off in a day, or less, by sudden pleural effusion.

With regard to abiding pulmonary obstruction in connection with valvular disease. Such a case is hopeless from the beginning; all that can be done is to palliate present suffering, or to remove present danger. Obviously, therefore, nothing but the most absolute necessity should induce us to do anything which might at all tax the constitutional powers of the patient. If the vessels are overloaded they may be relieved by cautious abstraction of blood. If the bronchi are obstructed with glairy mucus, or with abundant secretion, they, too, may be indirectly relieved by expectorants and diuretics, either to facilitate the removal of the viscid mucus, or to draw the watery discharge from the blood to another quarter. Or, if present danger to life threatens, we must of course, with out regard to more remote dangers, relieve the suffering organ by whatever means, and at whatever cost to the constitution. But if rest and warmth alone will enable the lungs to bear the burden of the circulation, these simple means should be trusted to; for a diarrhœa or a diuresis, the next available means, though powerful instruments for good, cannot be maintained without great exhaustion. They are instruments, moreover, which act with most effect on their first application. It is of the utmost importance to know that such a patient is most readily acted on through his bowels, and such a one through his kidneys, and by such particular remedies: but this knowledge need not be always put in practice. It is only for what warmth and rest will not, or do not appear likely to do, that abstraction, of blood, diuretics, purgatives or expectorants, should be employed under such circumstances.

But though we are sorely straightened in our use of means of relief, by the knowledge that the pulmonary obstruction is an abiding condition, this very circumstance, the habitual presence of the malady, enables us to employ a remedy which under other circumstances would not be available. In such cases we may safely employ opium in the face of symptoms which would otherwise contra-indicate its use, and by its means procure a night's rest with present safety and ulterior benefit. And it is no little thing to say that opium is not quite a forbidden remedy in cases of abiding pulmonary obstruction dependent on valvular disease.

How different is the pathology and treatment of the pulmonary and cerebra complications respectively of valvular disease! The brain, as we have seen, may suffer from increased or diminished arterial pressure, or from venous obstruction, and of these the first two are of infinitely the greatest importance. The lungs, on the contrary, suffer, in a large majority of cases, under the like circumstances, from venous obstruction. The cerebral complication is in truth rightly so called, for its occurrence tends only to augment the amount of disease. But in the pulmonary affection we may often recognise a spontaneous attempt at the relief of the labouring heart. Could it well be otherwise than that the treatment of the two should present an equally striking contrast with their pathology? It is so. In the one we do all, even by excessively active treatment, to prevent; for we can do but little to cure, even if the immediate danger be escaped. In the other, too, we may try to prevent; but so far from leaving the actual lesion entirely to nature, observation shows that the best mode of reaching the heart is to direct our treatment to it through the lungs, irrespective of the degree of prominence of the pulmonary symptoms.

It might almost seem, from what has been said thus far of the cerebral and pulmonary complications of valvular disease, that the treatment resolved itself into a simple question, of how much depletion the patient could bear? Not so. But at least depletion is the most important and most available means in such cases, and my limits scarcely allow me to touch on any besides these. For the other complications our remedies are more numerous, and, as usual, under such circumstances, of less certain application.

Abdominal complications.—It is only from their position in the same cavity of the body, not from any thing else which they have in common, that the secondary affections of the abdominal viscera are here classed together. For valvular disease of the heart acts injuriously in a very different way on the solid, to what it does on the hollow viscera of this cavity.

Of the importance of the structural diseases of the liver and kidneys, which coincide with valvular disease of the heart, there can be no doubt, were it only for the share they have in inducing dropsy under such circumstances. But in many cases these changes should be placed side by side with the cardiac disease, rather as parallel effects of some common cause,[*] than as resulting, themselves, from the obstruction to the circulation. Such, I believe, is their true pathology in most, and these the most important, instances. But it is scarcely the place to discuss the principles of their pathology here. Its explanation is a part of that great problem of the effects of chronic inflammation, and degeneration of the products of previous disease, on organic tissues, which is now being worked out by so many independent observers. We scarcely appreciate the importance of the results already obtained, from their having so insensibly grown upon us, and incorporated themselves with all our previous pathological knowledge, which they at once illustrate and advance. The pathology of these structural changes forms part of a great subject, of which valvular disease of the heart is itself but a branch. But it would exceed alike my limits and my purpose to discuss them here. I would restrict myself to those few remarks which the secondary affections of the stomach and intestines, and the functional lesions of the solid viscera, seem to require.

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[*] It is satisfactory on such a point to be able to cite Dr. Latham's authority (Diseases of the

Constant vomiting and pain in the epigastrium are not unfrequently met with.[*] But for the uncertainty which hangs over the interpretation of the morbid appearances of the gastric mucous membrane,[†] one would feel inclined to connect their symptoms with the intense congestion which this membrane often displays in fatal cases of valvular disease.[‡] The remedies which have appeared to me most deserving of confidence in the treatment of the epigastric pain are dry cupping, and especially blisters. In attempting to allay the vomiting dependent on valvular disease, I have not observed any particular medicaments to possess specific properties in this respect, apart from the general indications on which they have been prescribed. Only once I saw the alkalies, empirically administered for the relief of obstinate vomiting dependent on such a cause, produce much more good than any peculiarity of the case could have led me to anticipate.

Diarrhœa is not a common accompaniment of heart disease; on the contrary, constipation is much more frequently met with. But it has much interest in connection with advanced valvular disease, as being at times the cause of sudden death, under these circumstances, through exhaustion and syncope.[*] This is particularly the case in children,—as far, at least, as induction from a limited number of cases, and a general impression from a more extended observation, would allow me to infer. The fact, however, whether observed in children or adults, is explicable on the principle previously adduced, that life maintained under difficulties is destroyed at last by the most trivial causes. We find parallel illustrations in the trivial causes which may suddenly destroy those whose respiration has been long impeded by some tumor or laryngeal affection. And a more painful illustration is found in the rapidly fatal effects on the aged inmates of workhouses, of a slight fall of the external temperature.[†]

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It would seem that venous congestion of organs, as involving imperfect arterialization of the blood supplied to them, is in so far an unfavourable condition for the growth of fibrinous tissues. Valvular obstruction, therefore, as far as its effects in inducing venous congestion can be separated from any general pathological conditions (as already indicated) on which itself may depend, tends to produce but slight changes in the structure of organs. But on their secretions its effects are more positive, albeit seemingly at times inconsistent, or at least inexplicable. For it does not appear why, in connection with valvular imperfection, sometimes the watery and sometimes the solid constituents of the secretions should be in excess.

But, by the side of affections causing distress and danger to life, all minor derangements sink into nothing. We recognise, indeed, in valvular imperfection of the heart, a sufficient cause for jaundice, in all its degrees, from mere biliary congestion, to the well-marked form of the disease. Again, the explanation of albuminuria under the same circumstances is obvious. But these are scarcely in themselves, under these circumstances, objects of treatment. The great interest, on the present occasion, of the subject of venous congestion of these organs, turns on its connection with cardiac dropsy, rather than with these minor functional derangements.

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Dr. B. had seen the operation performed five times during the last three months. All the patients were immediately more or less relieved, two had tubercles at the time, one of whom has since died. Two cases were perfectly successful, the patients being, at the time of the operation, very ill, with pulse over 120, night sweats, &c. One recently operated on with the greatest relief was still under treatment. Finally, he knew of one case treated by Dr. Wyman, who is now well, and who undoubtedly would have died had the operation not been performed.

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Original Communications.

AN ACCOUNT OF A CASE OF

ANEURISMAL DILATATION OF THE POPLITEAL ARTERY,

TREATED WITH PRESSURE.

By James Paget,
Assistant-Surgeon to St. Bartholomew's Hospital.

(*Read at the Abernethian Society, Dec.* 5, 1850).

April 1850.—B. C., a gentleman who had been educated as a surgeon, 27 years old, very tall and thin, had enjoyed good health till October, 1845, when some heavy deals fell upon him. They knocked him down and fell across his legs; and he remained about a minute under them, before, with the exertion of great force, he could extricate himself. He was laid up for a week, and then resumed his usual occupation; but he had pain about his knees and legs, and especially in the left knee, and in the muscles of the calf of his left leg, whenever he walked; after over-exertion the pain became so severe that he could hardly stand. He treated these pains as rheumatism; but, about three years after the accident, he found the veins of the left leg becoming varicose: the pain still continuing as it had been in the knee and calf. For this state of the veins he applied bandages to the limb, with some diminution of pain in walking, but with no other advantage. It was just before Christmas, 1849, that he found a pulsating tumor in the ham, which felt somewhat larger than a walnut, and continued increasing till I first saw him, on the 9th of January, 1850.

I found in the left ham a tumor of oval form, having its long axis parallel with that of the limb, and measuring two and a half inches by two. It pulsated very forcibly, and equally on all parts of its circumference, and, with pulsation, felt as if it thrilled. A loud bellows sound was audible with the ear placed over the tumor, or over the artery above it. The pulse in the left dorsal artery of the foot was rather feebler than that in the right; but I could detect no difference in time between them. The skin over the swelling was tense; but its tissue, like that of all the adjacent parts, appeared completely healthy. There was, indeed, no other appearance of disease, either local or general.

The treatment of the case could not be commenced till the 31st of January, when first pressure was applied to the femoral artery, with two tourniquets made according to the description of Dr. Carte. These were placed on different portions of the length of the artery, and were alternately tightened and relaxed; but so much pain was produced, that the patient removed them after nine hours, and the plan was not resumed till the 2nd of February. From this day to the 10th of April, pressure was made on some part of the artery, and steadily maintained. During the whole seventy-five days, the blood only once flowed through the artery, the patient having fallen asleep, and the tourniquet having slipped and remained loose for four hours.

The pressure, as already stated, was made, in the first instance, with tourniquets constructed according to the plan of Dr. Carte, deriving their force from the tension of elastic caoutchouc bands. But although they were never tightened more than enough to stop, or reduce to a minimum, the pulsation in the tumor, yet they caused such pain, that after the fourth week, the patient would only use the Italian tourniquets. These, made with large pads to fit the outer and back part of the thigh, completely sufficed for the pressure. could be more easily applied, rested more securely, and produced less pain than the other instruments, however used.

The compressing pad was placed at different times over nearly every part of the length of the femoral artery. When one place grew tender, another was chosen; and, on an average, about two hours was the longest time during which the pressure could be borne. At the end of this time, the pressed tissues became extremely painful; only slight and short relief could be obtained by a little relaxation of the tourniquet: and it was very soon necessary to apply another, and take off all pressure from the painful place. The situation on which pressure could be longest endured was directly below Poupart's ligament: yet even here, pain was so constantly produced by continuing the pressure for more than two hours, that during the weeks he was under this treatment he assured me that he only once slept for more than two hours at a time. During the first month, indeed, he rarely slept for more than an hour, without being awakened by the pain of the pressure. He was thus considerably reduced in strength and flesh; but he suffered no other sign of illness. He remained always in bed, and lived with great moderation.

From the 2nd of February, when the pressure was commenced, to the 16th of the same month, the size of the aneurismal swelling gradually decreased. In this time it became about one-third less than it had been, and no other change was observed in it. After this time it retained its size for ten or twelve days: no progress was made, though the pressure and all the other particulars of the treatment were steadily pursued. Again, after this pause, the swelling diminished, gradually contracting for several days: and thus it decreased to about half the size it had presented when the treatment was begun. About the 10th of March the progress of improvement was again checked, we could not tell why, and for ten or fourteen days no change was discernible. At this time it was particularly noticed, that if the pressure in the femoral artery were slightly relaxed, so that the swelling might, for a few beats, pulsate freely, then, on again compressing the artery more firmly, the swelling would gradually, but considerably diminish, as if by contracting. This fact, together with the decreasing firmness and tension of the swelling, and other considerations to be presently mentioned, all tended to suggest that the swelling was formed of only the dilated arterial walls, with little or no clot within them.

On the 21st of March, the diminution of the tumor again commenced, and this time continued, till, by the 18th of April, it was reduced to the size of a hazel nut, and felt as a dilatation of the artery, measuring about an inch in length and half an inch in diameter. It had still a full pulsation, and was still devoid of the firmness and solidity characteristic of a sac filled with laminated clot.

When now, after eleven weeks confinement, no further diminution of the swelling appeared, the patient, thoroughly tired of so long and tedious a treatment, wished to move about. The plan of applying pressure was therefore changed to the employment of the tourniquet during the night only; and, instead of it during the day, a large firm linen pad was placed over the dilated portion of the artery, and held with pressure on it by means of elastic straps round the knee. These sufficed to check any tendency to increase; and by the 21st of May, a slight improvement was perceptible; the swelling feeling rather smaller and pulsating less forcibly.

The same mode of pressure was continued for nearly six weeks, the elastic straps and pad being worn in the day, and the tourniquet at night, and the artery being, probably, almost always pervious: still no change whatever ensued in the aneurism.

The patient had regained his general health and strength; but in the last week of June he suffered with severe tooth-ache and inflammation of the gums, and with this he became so ill, that he was obliged to lie in bed. On the 28th of June, after wearing the tourniquet all night, he found, in the morning, that the swelling in the ham had ceased to pulsate. No pulsation either could be felt in the anterior and posterior tibial arteries. Till this time, no change had been observed for nearly two months; but the closure of the aneurism now appeared complete.

On the 1st of July, I could feel no pulse at the ham; and there was only a small tumor, very ill defined, and such as one might have overlooked. I was doubtful about any pulsation of the arteries of the leg or foot. The patient was better as to his general health than he had been for the previous week, but was much reduced by his illness during this time.

On the 14th November, his father, a surgeon, wrote to me—"There is a tumor, about the size of a small nutmeg, where the aneurism was, but it does not pulsate. There is no pulsation in the femoral artery, from the middle of the thigh to below the tumor; but both the anterior and the posterior tibial arteries pulsate at the foot. The limb is not so strong as it was before the aneurism was found, and it is cold and numb till it is warmed by exercise. The only help it needs is warmth when not in use."

In commenting upon this case, one may notice, first, that the disease was, probably, an example of aneurismal dilatation, or, as Mr. Luke has named it, tubular aneurism; an aneurism of the cylindriform or fusiform variety described by Cruveilhier,—that is, a dilatation affecting, almost uniformly, the whole circumference of the artery in a certain portion of its length. Such dilatations are, indeed, I believe, very rare in the popliteal artery;* yet that such an one existed here is made very probable by many things observed in the case, and especially by the great diminution of size of the aneurism while under treatment.

The cure of popliteal and other similar aneurisms, whether treated by pressure or ligature, is usually accomplished much more by the filling of the sac with blood-clot, than by the contraction of the sac. Hence, usually, after the pulsation has ceased, the swelling, with comparatively little diminution of size, remains firm and nearly solid, till slowly its size is diminished by the absorption and shrinking of its contents. Thus, to mention but a few instances:—In a case of brachial aneurism, I found that the swelling, six months after ligature of the artery, retained two-thirds of its former size; in a popliteal aneurism, there was not more than this amount of diminution eighteen months after obliteration of the femoral artery by ligature;† in the first case of popliteal aneurism for which Mr. Hunter performed his operation, a tumor, as large as a hen's egg, remained fifteen months after the application of the ligature;‡ and in another of his cases the specimen in our museum§ shows that even after fifty years the whole aneurismal swelling was not removed. So, too, in the case I have related, though the swelling diminished greatly under treatment, yet no perceptible diminution has taken place during the seven months that have followed the cessation of pulsation.‖

I believe these cases are only examples of a general rule,—namely, that popliteal aneurisms being usually lateral and saccular dilatations of only part of the circumference of the artery, the obstruction of the passage of blood through them leads to its coagulation in and within the sac, but is attended with very little coincident contraction of the sac. Wherefore, even after the pulsation has ceased, the greater part of the swelling remains, and, consisting principally of blood-clot, requires considerable time for its removal.

On the other hand, when, as I believe in the case here related, a popliteal aneurism consists in a dilatation of the whole circumference of the artery, we may believe that there is the same indisposition to the formation of clot as in the similar dilatations of the arch of the aorta, and of other great arteries in which no part of the dilatation is far remote from the main stream of blood. In all these cases it is matter of common and just observation, that fibrinous deposits are scanty and rare; and therefore, in the similar dilatations of the smaller arteries, we might expect that the effect of any continued obstruction of the trunk would be the gradual contraction of the dilated portion, rather than its filling up with clot.

Other considerations strengthen this opinion of the nature of the case here related; especially, first, that as the enlargement of the artery after the injury was very slow, there was probably no rupture or serious damage of its coats, but that such a change as might lead to their slow and extensive impairment of structure; and. 2ndly, that the sensation derived from the touch of the dilatation was always that of a sac tensely filled with fluid and containing no clots such as are almost constantly found in saccular aneurisms,—*i. e.*, partial or lateral dilatations of the arterial walls.

The results of the treatment of this case, by pressure on the trunk of the artery above the aneurism, may next deserve comment. Considering that the patient was instructed in surgery, and well understood the plan on which the treatment was to be conducted, that he had himself chosen this plan of treatment, and submitted to it without interruption, and that it was attended with no local injury, or other inconvenience from pressure ill applied, few cases could be found in which the plan was more fairly employed. Yet eleven weeks of confinement to bed, of painful restraint, and of weariness from interrupted sleep, included an amount of suffering which I could not recommend any patient to undergo, in preference to the operation of ligature of the femoral artery.

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* Specimens may be seen in the Pathological Museum of the College of Surgeons, No. 1638; and in that of Saint Bartholomew's Hospital, Ser. 13, No. 53.

† Museum of Saint Bartholomew's Hospital, Series xiii. No. 114.

‡ Museum of the College of Surgeons, No. 3472.

§ Series xiii. F. 4.

‖ In six cases, recorded by Dr. Crisp (Treatise on Diseases of the Blood-vessels, p. 201), in which aneurisms were examined by dissection, at periods varying from four to eighteen years after cure by ligature, four still presented remains of the sac; in two no trace of it appeared.

In recording this case, however, it is far from my purpose to detract from the reputation which the application of pressure, for the cure of aneurism, has lately gained. The characters of the surgeons in Dublin, by whom chiefly this method has been promoted, are too eminent to allow me to doubt that its success is often admirable alike for safety and for speed. I am disposed to think that the slowness of recovery, in the case here related, may have been due to the peculiarity in the form of the aneurismal dilatation.

In all the instances of popliteal aneurism cured by pressure, to which I have been able to refer, it appears probable that the cure was effected mainly or solely by the coagulation of the blood in the sac. Here that event did not take place until after many weeks; and the recovery, accomplished mainly, and in the first instance, by the contraction of the dilated walls, could not be otherwise than slow. The postponement of coagulation in the dilated part of the artery may be, as already stated, most probably assigned to the uniformity of the dilatation; and in all such cases we might anticipate, from the rarity of clot-formation in tubular aneurisms of the aorta, that pressure, if employed, would need to be maintained for a long time, and that, even when the natural diameter of the artery is nearly regained, it would be apt to be again dilated, unless, at last, obliteration by clots should occur. But, might not the same events follow the application of the ligature? May we not suspect that the instances in which, after apparent cure, popliteal aneurisms have reappeared, have been cases of aneurismal dilatation, or tubular aneurism, in which the temporary recovery has been accomplished by contraction of the sac, without coagulation of the blood? I think that these questions may deserve consideration, and the collection of more facts than can yet be produced in illustration of them. I think we may occasionally expect that some differences may be found in the results of the treatment of aneurisms, according to their form, and especially according to whether they be saccular or tubular,—*i. e.*, lateral or peripheral dilatations of the diseased portion of the artery. Differences of the results of treatment have, indeed, often been noticed; but, so far as I know, they have not been generally explained, or, in any measure, referred to the differences of the forms of aneurism.

The last fact in the history of this case to which I would direct attention, is the sudden and unexpected cessation of the pulsation in the sac, two months after the discontinuance of constant or effective pressure. I offer no explanation of the occurrence; but it has its parallel in one case recorded by Dr. Porter,* and in another by Mr. Cusack.† In Dr. Porter's case, a physician had a popliteal aneurism for nine months. The swelling was soft and compressible, and pressure in the groin caused the pulsation to cease, and the sac to collapse and appear empty. Pressure was applied on the femoral artery for twenty days, and then the patient refused to submit to it longer. There was now a decided hardness in the seat of the disease; but the pulsation appeared to be nearly as great as before Four weeks after the pressure was left off, the patient found that the pulsation had ceased, and the cure appeared complete six months afterwards. In Mr. Cusack's case, pulsation ceased in a brachial aneurism very soon after the patient left the hospital, in which pressure had been used, as it was supposed, without advantage.

ROYAL COLLEGE OF SURGEONS;—ADMISSION OF FELLOWS.

The following members, having undergone the necessary examinations for the fellowship, have been admitted by the President and Council, fellows of the College:—Adams, William, New Broad Street, diploma dated Feb. 4, 1842 — Alexander, James, London, November 19, 1841 — Barker, Walter Rice Howell, Wantage, March 5, 1841—Butler, James Henry, Bengal Army, April 26, 1839 — Ottaway, James Cuthbert, Dover, April 19, 1833.

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* Dublin Medical Quarterly Journal, May, 1846.

† Miller's Principles of Surgery, p. 586. Ed. 1850.

ON THE
ACTION OF POISONS,
AND ON THE
NATURE AND TREATMENT OF ARSENICAL POISONING.

(*A Paper read at the Guy's Hospital Physical Society, March 22nd*, 1851).

By William Odling, F.C.S.

Part I.

Morbid action of Heterogeneous Ingesta—primary and secondary effects—specific action—local and remote effects—definition of a poison—essential properties of a poison—Arsenic—its primary and secondary action—its specific effect—Mechanism of its absorption—Elimination by Excernent Organs—period required for complete elimination.

I have the honour to direct your attention to a consideration of the nature of poisons, and to the physiological characters and rational treatment of arsenical poisoning. I shall first lay before you certain modifications of the generally received views on the action of poisons; then briefly describe the toxicological effects of arsenic; then discuss the rational modes of treatment, and conclude by suggesting a new chemical antidote for arsenical poisoning.

Any substance, which having been taken into the system from without, produces a morbific effect upon the body, originates that effect by one or more of three primary actions.

It may act mechanically.

It may act chemically, using that word in its most extended sense, as including calorific, electrical, and similar changes.

Or it may act vitally,—that is, by at once causing modifications in the vital actions.

1st. *Mechanically.*—Iron filings, coarsely pounded glass, when taken into the stomach, irritate that viscus by virtue of their pointed particles. Open penknives, &c., when swallowed, effect greater structural lesions, by the protrusion of their sharp blades. Certain hard large masses when received into the intestine, by virtue of their size obstruct some constricted portion of the gut. These are examples of agents whose primary action is mechanical; but necessarily consequent upon this primary mechanical effect, is a secondary vital effect, or change in the condition of the vital actions going on in the structures injured, and those in immediate contiguity: thus the local mechanical irritation of the fragments of glass induces a consequent local vital manifestation, in the shape of increased action or inflammation. Or if the primary mechanical injury have been great, a secondary state of syncope may be induced, quite independent of any inflammatory action, but directly consequent upon the extent of the lesion.

2nd. *Chemically.*—The powerful mineral acids which immediately destroy the contiguous tissues, the alkalies by which they are dissolved, caustics with which they combine more or less actively, hot or cold substances, which when received into any internal organ, cause great alterations in the temperature of that organ, whether or not obviously affecting the affinities existing in the tissues.[*] These are examples of agents whose primary action is chemical, and here also secondary vital manifestations necessarily follow the primary chemical effect.

3rd. *Vitally.*—Substances which do not exert any palpable mechanical nor chemical effects, on dead nor on living tissues, yet cause at once morbid alterations of the vital actions in the part to which they are applied, as instanced in the local irritation produced by cantharides, in the local anæsthesia effected by aconite.

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[*] Boiling water, melted lead, &c., when swallowed, not only increase the temperature of the part, but alter the chemical affinities existing therein, and consequently produce secondary vital actions. Hot water (105° to 115° F.) and water at a temperature a little below the mean (60° F.) if swallowed even in large quantities, would scarcely cause any obvious change in the chemical affinities, but by their primary action simply alter the temperature of the part; but as a definite temperature is a necessary co-existent with normal vital action, if the temperature of any part be suddenly altered to any great degree, secondary vital changes are necessarily induced. Thus, when large quantities of cold water have been swallowed by persons whose systems were in an excited state, serious and even fatal effects have ensued. The cold water evidently acts primarily in decreasing to a great degree the temperature of the part, and as a necessary consequence induces secondary changes in the conditions of the vital actions, as is evidenced by the setting up of acute gastritis, or by the establishment of syncope, effects precisely like those produced by agents having an admitted local chemical action upon the tissues, as the milder corrosives, insomuch that cases where the symptoms have been due to the ingestion of cold water have been mistaken for cases of irritant poisoning.

There is every reason to believe that these constitutional or vital effects are necessarily consequent upon the absorption of the agent: thus, to compare the irritant effects produced respectively, by lunar caustic and tartar emetic, the nitrate of silver when applied to dead animal tissues combines with them. When applied to a living animal tissue, in consequence of its chemical affinities, it does combine to a certain extent with the tissue, and in the same manner as it previously did with the dead animal matter; but the vital force (or natural tendency to a normal condition of structure) is urged to increased action, in order to oppose the destructive effects of the chemical force; and thus we say that there is a secondary vital state of inflammation induced, as a consequence of the primary chemical action, and not necessarily connected with any absorption of the salt. Should the primary chemical action be violent, or the secondary vital reaction sufficiently great or sudden, a state of syncope might ensue, owing probably to a shock, or impulse, having been transmitted from the injured tissues to the ganglionic centres, with which the functions of the heart are so intimately connected.

Let us now compare the effects produced by the potash tartrate of antimony. When this substance is applied to a dead animal tissue no immediate result follows, the chemical action of the salt is entirely wanting. When it is applied to a living animal structure, there is no obvious mechanical or chemical effect produced upon the structure, but the salt gets absorbed into the tissue, and by virtue of some unknown force, acting upon the capillaries, or nerves, or both, sets up a new definite action, a specific inflammation, which all fair analogy warrants us in believing to be necessarily consequent upon the absorption of the substance into the tissue.* That is to say, that the local absorption necessitate the local inflammation quite independently of any central influence; but should this local inflammation be sufficiently violent, a state of syncope might ensue, doubtless depending upon the nervous transmission of the local impression as previously described.

But after the substance has entered into the general circulation, it becomes diluted, and, for the most part, does not manifest any invariable local specific action, but it acts generally throughout the body, affecting most those parts which are most vascular, or those in which the capillary action is most deranged: thus, certain substances act indifferently, as diuretics, diaphoretics, or expectorants, according to the relative conditions of the capillary circulation, in the kidney, skin, and lungs respectively. However, certain substances, by virtue of relations not as yet understood, act specifically upon certain organs: thus, though belladonna having been absorbed, be circulating equally throughout the system, yet we recognise its effects almost entirely on the grey matter of the brain, and, though strychnia having been absorbed, be circulating equally throughout the body, we perceive its effects almost solely upon the spinal cord. There is a very evident chemical parallelism to these actions, for though substances having chemical affinities for the tissues when they are absorbed into the general circulation are usually too diluted to exert any manifest effects, yet, let us suppose them to be applied to an open sore, and we shall recognise at once specific chemical effects upon certain tissues, analogous to the specific constitutional effects above described. Thus, if to an open sore, in which bone and the soft tissues are equally exposed, we apply an alkaline fluid, its chemical action will be mostly manifested upon the soft tissues; but if we apply an acid, fluid its chemical action will be most apparent upon the bone; and thus we say, that, as the alkaline fluid acts chemically upon the soft tissues, by virtue of its chemical correlations, and the acid fluid upon the bony tissues by virtue of its correlations, so the belladonna acts constitutionally upon the grey brain matter, and the strychnia acts constitutionally upon the spinal cord, by virtue of their respective vital correlations.

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* The local absorption or physical transudation of the substance through or into the tissues, is necessary to bring such substance into contact with the sentient nervous filaments, or other structures affected by it, which local affection may or may not be sufficiently violent to cause a definite general reaction of the organism,—*i. e.*, a sympathetic central action. When hydrocyanic acid is applied to the skin it is brought by absorption into physical contact with the sentient extremities of the nerves, and in that manner produces a local anæsthesia quite independently of any central influence. Moreover, when belladonna is applied directly to the conjunctiva or eyebrow, it causes an expansion of the pupillary aperture, according to Muller, by paralyzing the ciliary nerves (contractors of the aperture, derived from the 3rd and 1st of 5th through lenticular ganglion) with which the belladonna is brought into contact by absorption. Query—When belladonna is swallowed and acts through the general circulation, may not its pupil-expanding powers depend upon its direct local action on the ciliary nerves, rather than on its secondary effect induced through the nervous centres.

As another illustration of the character of these specific actions, let us consider cantharides, which has no obvious chemical or mechanical effect upon animal structures, but which, when taken into the stomach in a fatal dose, becomes locally absorbed into that viscus, and sets up a local inflammation there, similar to that which would have been produced in any other structure to which the substance might have been applied. But after the cantharides has entered into the general circulation, it affects the brain specifically, so that the individual may die either from syncope, the result of the local inflammation, or from coma, the result of the central nervous disturbance[*]. The effect of cantharides in producing syncope is evidently a remote action, properly so called, but its effect in producing coma is really a local effect depending upon the local contact of the brain, with the active principle of the cantharides circulating in the blood sent to that organ.[*]

We have thus seen that substances, when taken into the system, may produce their primary effects mechanically, chemically, or vitally, and that, in any case, secondary vital changes ensue from the reaction of the organism. But substances may act primarily in a mixed manner: thus, alcohol, when taken into the stomach, has a local chemical action thereon; it abstracts water from the viscus, it coagulates the fluids therein circulating, and it combines with, and condenses the soft tissues; as a secondary consequence of which action, inflammation of the organ is set up. But the alcohol likewise becomes absorbed, and then specifically affects the brain, causing excitement, delirium, and coma, which central nervous affection must be looked upon as a primary vital effect, for it is quite independent of the local chemical action[†]

After the entrance of any substance into the general circulation, changes in the condition of the substance, and changes in the state of the organism, ensue. Of the immediate nature of these changes we are most profoundly ignorant; with regard to the substance we can only appreciate certain ill-defined chemical transformations; with regard to the organism we can, under certain conditions, perceive physical and chemical changes, as instanced respectively in the exosmotic shrivelling of the blood-globule, and in the plastilytic state of the liquor sanguinis, after the absorption of salines into the blood. But we are bound to admit, in the present state of our knowledge, that substances after their absorption into the blood act upon the system by virtue of powers neither chemical nor mechanical, powers with whose condition of action we are perfectly unacquainted, and which, for want of a more definite name, we call vital powers. Moreover, we are incapable of appreciating the nature of the direct impression produced on any organ by the circulation of noxious blood through it, nor can we understand the character of the sympathetic impression produced by a remote affection; no obvious effects remain to account for the abnormal inference with functional action. And even in those cases where local changes are observed, death does not result directly from the local changes, but from organic impressions, too imperceptible, too evanescent, to come under the cognizance of our bewildered senses.

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[*] No one doubts that poisons can act locally on the nerves of the part with which they are in contact. No one doubts that local impressions react powerfully, and even fatally, upon the nervous centres; and it is highly probable, if not demonstrable, that the local impressions produced by the pure poisons do affect the nervous centres in this manner: thus it is very possible that rigid spasms following the ingestion of strychnia, may be a remote effect of the contact of that drug with the sentient extremities of the nerves by means of the circulation, especially when we consider the comparative frequency of eccentric tetanus. The following experiment of Lembert's, though made with a different object, seems to favour this view. To a portion of the denuded dermis strychnia was applied; general tetanic symptoms followed. Here the strychnia, by a local absorption, came into contact with the sentient extremities of the nerves, and it is assumed upon this hypothesis affected there a local impression, which, by nervous transmission to the myelonic centre, produced tetanus. To the same portion of denuded dermis acetate of morphia was then applied; the tetanic symptoms ceased. Now it is easy to conceive how the direct application of morphia to the sentient extremities of the nerves might remove the local impression therein created by the strychnia, and that by its removal the sympathetic tetanus might subside; but if we suppose that the strychnia and the morphia act severally upon the nervous centres through the general circulation, it is difficult to understand how the effect of morphia upon one organ, the brain, should counteract the effect of strychnia upon another organ, the spinal cord, especially when we recollect the slight control exerted by the cerebral influence over the tetanic spasm. This fact is no proof, but simply standing by itself it favours the hypothesis of the remote sympathetic action of strychnia in producing tetanus. It may also be observed, that while it is an admitted fact that, of substances admitted into the stomach, the great majority do not act when the vena porta is tied, yet that the Acadmy of Medicine, in Philadelphia, found that under the above mentioned conditions nux vomica did not fail in producing tetanus. No one doubts but that if a large quantity of cantharides were taken into the stomach, the fact of the vena portæ being tied would not prevent an extensive local inflammation taking place, and a sympathetic fatal syncope; and doubtless it is possible that a person having received a large quantity of laudanum into his stomach might die from syncope, the result of the benumbing influence and arrest of all vital actions locally, rather than from coma, the effect of the generally operated blood affecting the brain specifically.

[*] As an example of the difference between the local and remote action of substances, may be mentioned the diuretic effect of the turpentines, depending upon the local circulation of the terebinthinate blood through the kidney, and the effect of jalap in cerebral congestions not depending upon its local circulation through the brain, but upon its evacuant action on a remote organ.

[†] Messrs. Morgan and Addison observe, that "all fair analogy forbids the conclusion, that a poison or ordinary cause of disease shall at one time produce constitutional disturbance through the medium of one system of organs, and at another time through the medium of another system of organs." This observation does not appear to apply to the above-cited instances of cantharides and alcohol.

All those agents which have a primary vital effect—that is to say, all such substances as do not act until after absorption,—if their action be of a sufficiently powerful character to endanger life, are termed poisons. Those agents whose primary action is simply mechanical, and whose action is sufficiently powerful to endanger life, are not termed poisons. Those agents which exert a primary chemical effect only, and whose action is sufficiently powerful to endanger life, are or are not termed poisons, according to circumstances, and individual opinions.

Dr. A. Taylor says—"A poison is a substance which, when taken internally, is capable of destroying life without acting mechanically on the system," including corrosives and hot liquids.

Liebig excludes from the agents comprised in this definition "all those substances which" (acting chemically) "produce the direct destruction of the organs with which they come in contact;" and Flandin refuses to admit agents—such as nitrate of silver—which produce their primary chemical action and secondary vital inflammation without being necessarily absorbed.* For my own part, I would prefer, with Flandin, to limit the word poison to those substances which do not produce their deleterious effects until after absorption—*i. e.*, by at once altering vital actions, independently of any primary local manifestation of a chemical or mechanical effect: but the question is of little import in a forensic point of view since, as Dr. Taylor has so clearly pointed out, that "if a substance criminally administered destroy life, whatever may be the nature or mode of operation, and the accused be tried on a charge of murder or manslaughter, the whole duty of the medical witness consists in showing that the substance given was the cause of death;" "but that, if the deleterious effect does not depend upon the nature of the substance taken, but upon the state of the system at the time it was swallowed, the substance cannot be regarded as a poison."

Having premised these few observations upon toxicology in general, we will now briefly consider the particular nature and effects of arsenical poisoning, in order thereby to appreciate the indications for treatment. Arsenious acid—white arsenic, or, ordinarily, arsenic—is a substance which exerts a primary mixed action upon the system, manifesting chemical and vital phenomena quite independently of one another. Thus arsenious acid, when taken into the stomach, or applied externally, by virtue of its chemical affinity for organized structures, combines to a certain extent with the albuminous compounds, solid or fluid, and thereby acts as a caustic in a similar manner to, though in a less degree than, does nitrate of silver. As a necessary consequence of this change in the superficial parts, an alteration and increase in the action of the subjacent structures ensues, and thus inflammation is set up. When the arsenious acid is applied directly to the tissues in a state of concentrated solution, the chemical action is not violent, there is nothing like corrosion, but there is a definite chemical combination; and even when the solution is dilute, there is reason to believe that chemical changes, or tendencies to chemical change, do take place, and thus give rise to an increase in the vital action of the contiguous parts, in order to oppose the chemical action.[*] But, in addition to this chemical effect, the arsenic becomes locally absorbed into the structures, and, acting there as an irritant, sets up an inflammatory action similar to that induced by cantharides, and quite independently of the local chemical effect upon the superficies to which the poison was applied. Now there is reason to believe that this local inflammation—which is frequently very violent, and at times leads rapidly to ulceration—depends for its production almost entirely upon the local absorption of the arsenic into the tissue, there setting up vital changes by virtue of powers not yet understood, and in very small part upon the local chemical action of the poison. And here we notice a striking difference between the action of arsenic, and that of nitrate of silver, in producing local inflammations, the latter substance acting almost entirely by its superficial chemical effects, and but very slightly, if at all, by its absorption into the tissues Should, then, this local inflammation—the result in part of the local chemical, but chiefly of the local constitutional action of the arsenic—take place in a highly organized structure, having numerous sympathetic associations, and should it be sufficiently extensive and violent, a state of syncope will speedily ensue, as a remote effect, or nervous transmission of the local state of derangement; quite independently of any contact of the poison with the nervous centres: thus faintness and collapse are among the earliest symptoms following the ingestion of arsenic.[*] But when the poison is received into the general circulation, its effects are more or less manifested throughout all the organs of the body; though it appears to exert certain specific actions, which are primary local effects depending upon the contact of the arseniuretted blood with the tissues specifically affected, by means of its circulation through them. The specific action of arsenic is chiefly recognizable on the cerebro-spinal system, as is manifested by its curative effects upon certain nervous disorders,—as chorea,—by a continuance of small doses giving rise to headache, impaired nervous sensibilities, and vertigo, and by the action of large doses in originating paralysis, convulsions, or coma. Independently of the remote action of arsenic upon the heart as above described, the poison also appears to have a specific local action upon that viscus, in consequence of the general circulation of the poisoned blood through it and its nervous ganglionic centres, as evidenced by the quick, small, and frequently irregular pulse attendant upon chronic poisoning, and by the inflammatory ecchymosis, seen after acute poisoning on the internal surface of the heart, either diffused, or in the form of spots. That the alimentary canal is also specifically affected, is evidenced by the acute gastro-enteritis consequent upon the continued administration of small doses, but especially by the occurrence of inflammation of the stomach following the application of arsenic to wounds. We are not, therefore, surprised at the intensity of the gastro-enteritis caused by the ingestion of arsenic into the stomach, when we consider that, in addition to the local chemical and local irritant action of the poison upon that part, in common with any other to which it might have been applied, that there is a specific poisonous effect exerted upon the alimentary canal in an exaggerated degree, in consequence of the blood circulating through it being loaded with arsenic by means of the local absorption. The nature of the energy or force of arsenic, —by virtue of which it produces its action after absorption,—and the character of its immediate primary effects upon the tissues through which it circulates, are unknown: by its long continued use the blood becomes impoverished, and after acute poisoning is frequently found fluid.

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* "Leclerc, who wrote in 1803, defines a poison to be a substance which, taken in a small dose, internally, or applied to the living body in any way externally, is capable of injuring health or causing disease." Liebig says—"All those substances which produce the direct destruction of the organs with which they come in contact may be compared to a piece of iron, which can cause death by inflicting an injury on particular organs, either when heated to redness, or in the form of a sharp knife. Such substances are not poisons in the limited sense of the word; for their injurious action depends merely upon their condition."

Dr. Griffith includes all chemical agents: "That which, when taken internally, or applied to the surface of the body, is capable of destroying life without acting in a purely mechanical manner."

Flandin: "Toute substance inassimilable qui en pénétrant dans l'organisme par absorption, produit rapidement des effets funestes, la maladie ou la mort." "D'après ma definition, et c'est en quoi elle diffère de toutes celles qui ont été proposées jusqu'ici, tout poison agit en pénetrant dans l'organisme par absorption: cette absorption est en quelque sorte l'empoisonnement même; en est du moins la condition capitale." "Absorption dans les termes de la définition que je propose a un sens plus general; il n'entraint que l'idée d'une pénétration dans l'organisme."

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[*] Drs. Taylor and Christison deny the local chemical action of arsenious acid on the tissues; but it appears to me upon scarcely sufficient grounds. For arsenious acid combines with albumen to form a distinct chemical compound; it unites with the soft animal tissues and decomposes the interstitial fluids, forming compounds less liable to decay or putrefaction by virtue, of which it has a manifest antiseptic influence; and in consequence of its powerful chemical affinities for organised tissues it is frequently applied locally as a caustic: all three, actions precisely similar to those of corrosive sublimate, chloride of zinc, &c., substances having an admitted chemical action.

The facts, of inflammation of the stomach having been found in cases where arsenic was applied externally to a wound; the degree of the local inflammation not being proportionate to the quantity of poison taken; and the occurrence of death even where the arsenic has been removed from the stomach before it has had time to produce any marked local changes, these actions I do not deem sufficiently conclusive, when compared with the evidence above adduced.

[*] Dr. Pereira relates an illustrative case:—"The individual, a gentleman about twenty years of age, coarsely powdered a lump of arsenious acid and swallowed it; at a rough calculation it was supposed that he took six or eight drachms of the poison. The symptoms were pains, vomiting, great weakness, with extreme depression of the vascular system, faintness, collapse, and death in about four hours. His intellect was clear until a short time before his death, when he sank into a dose—there were neither convulsions nor paralysis."

The means by which arsenic becomes absorbed are purely physical or endosmotic; the arsenic forms a solution which becomes applied to the highly vascular gastro-intestinal surface, percolates the capillary membranes, and enters into the blood, with which it is conveyed all over the system.[*] In the present state of our knowledge, there is no reason for believing that the absorption of solid substances can take place, and notwithstanding the comparative insolubility of arsenious acid, there can be no doubt but that it does become dissolved, prior to its entrance into the circulation. When we consider the immense superficies of the gastro-intestinal tract, and take into our notice the fact, that at the same time at which the endosmotic current is conveying the arseniuretted fluid into the blood, the exosmotic is pouring out fresh fluid to act upon the undissolved portions of the arsenic, and the solution thus effected is being constantly absorbed by the endosmotic and replaced by the exosmotic current,—when we recollect, moreover, the statements of Dr. A. Taylor as to the rapidity with which arsenical solutions become absorbed,—taking these considerations in conjunction with the admitted fact that three grains of absorbed arsenic are amply sufficient to cause death, we see that the comparative insolubility of the poison offers but very slight resistance to the speedy absorption of a fatal dose.[*]

Notwithstanding the structural organization of the small intestine, its extent of surface, and its vermicular movements, being especially adapted for the absorption of ingesta, there is reason to suppose that a large part of the arsenic which is received into the general circulation is taken up by the capillary inculation of the stomach, in consequence of the greater length of time during which the poison is in immediate contact with the mucous coat of that viscus.

Having thus considered the means by which arsenic enters into the general circulation, we have next to ascertain the manner in which it is removed therefrom. The first series of capillaries through which the blood passes is the hepatic, and it has been proved that large proportions of arsenic are removed from the blood whilst circulating there: it appears probable that only the great excess of the poison contained in the blood is separable by the liver; that is to say, that the proportional removal of the arsenic from the blood increases in a direct ratio with the amount of that substance in the fluid. The manner by which this separation is effected does not clearly appear; the secretive action of the liver, unlike that of the kidney, partakes largely of a specific nature; the secretion is very definite in its character, and although it doubtless is subject to slight variations, such a range would scarcely account for the statement of Flandin, that the liver contains nine-tenths of the whole quantity of arsenic absorbed into the system. Moreover, it is not certain that arsenic separated from the blood by means of the liver really does enter largely into the composition of the bile; but rather that it is deposited in the tissue of the organ (in the same manner as it is said to be deposited in the muscular tissue), from which it is gradually taken away by the absorbents of the part, carried into the general circulation, and eliminated by the excernent glands. The arseniuretted blood, after its depuration by the liver, reaches the inferior cava, and thence traverses the cardiaco-pulmonary channel: after which, it is equally distributed throughout the systemic circulation. According to Flandin, the blood in its passage through the lungs is deprived of another amount of arsenic by the pulmonary exhalations. The poisoned blood is said to deposit arsenic in most of the tissues through which it traverses; probably such is the case, though the experiments from which this inference is drawn must be taken with some degree of caution, when we consider the impossibility of thoroughly removing the poisoned blood itself from the tissues examined. The secretions withdrawn from the blood by the skin and kidneys respectively, doubtless remove the poison from the system; these organs are in fact the principal means by which the poison is ultimately expelled. According to Flandin, the cutaneous exhalation is the chief agent in the removal; while, according to Orfila, the kidneys are principally concerned: it is to be observed, that arsenic is not mentioned in Wohler's elaborate paper as being a substance got rid of in the urine. It is an admited fact, that arsenic is capable of being thoroughly eliminated from the system after its absorption; in a case that occurred to Dr. Taylor, this had taken place within eight days, an unusually short period: the length of time required for the complete expulsion of the poison from the human body, after its absorption, is extremely variable, and is effected by very obvious conditions, which it would be needless to particularise—about a fortnight may be considered as a mean. There are no facts which would lead us to believe, that arsenic is an accumulative poison, though the force of Flandin's hypothetical objection still remains,—"there are no reasons why the elimination should necessarily go on pari passu with the absorption." The precise symptoms of arsenical poisoning, the diagnostics and prognostics, together with all the recognisable vagaries, as related on the one hand with the quantity and mechanical or chemical condition of the poison; and, on the other hand, with the age, sex, temperament, idiosyncrasy, and habits of the individual; as also with the state of the system at the time, having reference to plethora, food, sleep, &c.; all these subjects, together with the consideration of the means to be adopted for the detection of the poison, being foreign to the object of this paper, will not be further alluded to.

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[*] The phenomena of ex- and endosmosis are purely physical, but are modified by the action of various forces.

Physical.—Differences in the relative specific gravities, pressure, and movements, of the opposed fluids, create differences in the relative osmotic currents.

Chemical.—The relative movements of the currents are affected by the chemical affinities existing in the fluids.

Calorific.—Other conditions being equal, differences of temperature affect the relative motions of the fluids.

Electrical.—Other conditions being equal, an endosmotic current takes place in the direction of an electrical current passed through the fluids.

Vital.—Membranes, by virtue of their organisation, admit the transpiration of fluids more readily in one direction than in another.

[*] Cold water dissolves from half a grain to a grain of arsenious acid; the extent of the solution, however, must be much greater, in consequence of the increase of temperature up to nearly 100° F., and on account of the solvent action of the gastric juice, unless these favouring circumstances are counterbalanced by the opposing condition—the presence of animal matter in the solution.

[To be continued.]

POISONING BY ARSENIOUS ACID.

SYMPTOMS DELAYED NINE HOURS—SUFFERINGS PROTRACTED FOR THE SPACE OF NEARLY THREE DAYS.

(*Communicated to the London Medical Society, April* 5, 1851.)

By William Burke Ryan, M.B.,
M.R.C.S.Eng.

Arsenious acid is a substance so often used for criminal purposes, the supervention of symptoms of poisoning is so varied and uncertain, sometimes quickly appearing and at other times being deferred until such a period has elapsed, as, not very long since, to lead to the acquittal of criminals from the impression on the minds of medical men that symptoms could not be delayed beyond a certain period that every well authenticated case is a desideratum to the medical jurist, and of moment in furthering the ends of justice. A case is recorded in the twenty-ninth vol. of the Edin. Med. and Surg. Journal, where a Mrs. Smith was acquitted, on a trial for murder by poisoning with this substance, because symptoms did not arise for eight hours after anything suspicious had been given; and, although medical jurists say that symptoms are seldom delayed beyond an hour, for which we have the good authority of Beck, Christison, and Taylor, yet cases are on record where they have been long in showing themselves. Thus Orfila, as cited by Christison, gives a case where scarcely any symptoms occurred for five hours. Another case is recorded where a girl took arsenic at eleven o'clock A.M., dined at two P.M., and concealed her sufferings until eleven o'clock. Another is recorded in the Edin Med. and Surgical Journal, where "a white draught" was administered suspiciously at ten o'clock in the evening: the girl went to bed, and no symptoms appeared until next morning. Here sleep intervened, which Dr Christison, who cites the case, thinks may retard the symptoms. Dr. Lachèse, as quoted in Taylor's excellent work on Medical Jurisprudence, gives a case, where, a large dose being taken, symptoms did not arise for some hours. Dr. Taylor also mentions one case "where appearances were delayed to ten hours, the maximum period yet known."

A very remarkable case of M. Tonnelier is given, in which the poison was taken by a young female at eleven o'clock in the morning, and no well-marked symptoms occurred for eight hours after, and then there was violent vomiting:—"after death, a cyst, formed of mucous membrane, was found in the stomach, the poison having thus become sheathed over."

In the MEDICAL GAZETTE, vol. xlv., a case is given by Mr. Greaves, in which, after continued vomitings, he found post-mortem, numerous patches of white powder, death occurring in thirty-six hours. He remarks: "another circumstance worthy of notice is, that there was so complete a remission of symptoms after the poison had been taken, that the deceased was able to occupy herself in her usual avocations, and to go for a walk."

A case is recorded by Mr. Thompson, of Nottingham, where, half an ounce of arsenic being taken, death occurred in six hours. One by Dr. Booth, of Birmingham, where, after a similar dose, death took place in the same period. One by Mr. Foster, where death occurred in a child in two and a half hours; another where death occurred in an adult in three and a half hours. "The average time of death," says Dr. Taylor, "is twenty-four hours." "I have never myself," says Mr. Herapath, "known death prolonged beyond twenty-four hours after sufficient arsenic had been taken to cause death. There are recorded instances of persons living for three days after taking a large quantity of arsenic."

The following case will, I think, present features worthy of record, both as regards the quantity of arsenious acid swallowed, the length of time intervening before any marked symptoms occurred, the period of time during which the patient concealed the fact, and the length of time he lived after taking the poison.

About one o'clock P.M., on Wednesday, July 14, 1847, I was called to see Wm. H. H., æt. 35, said to have taken poison. On entering his room, I found him on his back, vomiting frequently. He was quite collected, appeared to be an intelligent man, and informed me that some time before, two men, in the presence of a woman, used a term of obloquy towards him. From this time, he imagined people's eyes were suspiciously fixed upon him at his places of business, and wherever he went. This was told so collectedly that I had no reason to doubt its truth, but from the evidence afterwards given it must have been a delusion. He told me that on the previous day, about two o' clock P.M., he took half an ounce of arsenic in porter, adding water afterwards to take up what remained unsuspended, *and that he did not begin to vomit until eleven o'clock at night* His brother also informed me of, and afterwards deposed at the inquest to this fact, as well as that he rinsed out the pewter vessel from which the patient took the arsenious acid, and noticed a very small quantity of a white sediment, of the nature of which he had no suspicion.

That half an ounce was the quantity, I ascertained from the person who served him with the poison. The patient's brother also deposed that, after vomiting at eleven o'clock, the patient *never, to his knowledge, got out of bed afterwards until half past seven o'clock next* morning. He did not even then complain of suffering from poison, and his vomiting and thirst were attributed to the usual effects of his "drinking bouts." He had been tipsy for a week. This brother slept with the patient, and it was not until his return about twelve o'clock on Thursday that he was informed of the fact of poison having been taken.

The extremities were cold and damp; the radial artery not to be felt at the wrist; the pulse scarcely perceptible higher up, quick, feeble, and small, as if the calibre of the vessel had diminished to one fourth its normal size, and about ninety beats in a minute. No pulse in the dorsalis pedis artery, nor in the posterior tibial behind the malleolus internus. There was a feeling of great prostration, and yet he used quickly to raise himself on his elbow to vomit, which could scarcely be expected from the deadly coldness of the extremities. The action took place with a sort of sudden effort, and then he fell back exhausted. There was intense thirst, and he took large quantities of fluids during the morning. He complained of a sensation of burning down the œsophagus, and severe pain across the epigastric region, much increased by pressure; being more acute on pressure over the immediate region of the liver. Pain extended over the entire abdomen.

He was very restless, and tossed about in the bed, ejaculating frequently. There was no inflammatory appearance about the mouth or fauces. The basinful which he had vomited in the morning, as well as at eleven the previous night, had been, before my arrival, thrown away; and beside the bed were two large basins, one containing the second quantity vomited, about four quarts of a yellow fluid, and the other basin holding the last matter vomited, to the amount of about three quarts of a very dark green fluid (subsequently increased by the additional fluid used in washing out the stomach, &c.). I immediately administered the hydrated peroxide of iron, which, he said, cooled the burning sensation he experienced, and this was followed as quickly as possible by sulphate of zinc, which commenced its action by the time the stomach pump was adjusted. I washed out the stomach repeatedly with lime-water, during which he vomited several times. Friction by strong stimulating liniments was then used to the extremities. The iron was continued, and oleaginous aperients given, and subsequently aromatic spirit of ammonia, with ether and opium.

Although here were many of the symptoms of poisioning, yet the history of the case, and the time the symptoms were delayed, made one almost doubt whether arsenic had been taken, and made the case one of more than usual interest. I therefore had both basins removed to my house for the purpose of analysis.

It will be recollected that the first basinful vomited had been thrown away; therefore I had in my possession the second and third; and most important is it to remark that from the third basin, in which were the contents of the stomach, drawn by the stomach pump, the arsenic was not only ten-fold more quickly detected, *but from the very sediment* in that basin (arsenite of iron, we may presume, as well as uncombined arsenious acid): having dried it, and mixed it with black flux, I was enabled by the application of heat to procure a ring of metallic arsenic; thus showing that the poison had remained undissolved during twenty-four hours, adhering, most probably, to the mucous coat of the stomach, was brought away undissolved, and so remained in the liquid. On throwing some of this dried sediment on glowing charcoal the garlic odour was perceptible. I tried Reinsch's test, and took about half a pint of this fluid in a Florence flask, and having acidulated with hydrochloric acid, I immersed in it slips of clean copper, and kept it, by aid of the Argand lamp, at a boiling heat for half an hour. Metallic arsenic began quickly to be deposited, and by the end of the process a full coating, with the steel grey appearance, was thrown down. Having washed and dried and cut these into small pieces, I inserted them into a glass reduction tube, and on applying the heat of a spirit lamp, arsenic volatilized, and becoming oxidized, condensed on the sides of the tube. I repeated this process with a second tube, and the ring so obtained I dissolved in boiling water, and tested with ammonio-nitrate of silver, ammonio-sulphate of copper, and sulphuretted hydrogen, with each and all of which I obtained the characteristic results,—namely, the yellow precipitate of arsenite of silver, the arsenite of copper or Scheele's green, and the sulpharsenious acid.

Through another portion I caused for some hours to pass a stream of sulphuretted hydrogen, and obtained from the precipitate, by aid of black flux, a ring of metallic arsenic. I also tried Marsh's test.

I am thus particular in narrating my

proceedings, because on delivering the summons of the deputy coroner, the late Mr. Mills, the bearer told me he had Mr. Mills's orders to say that should there be sufficient evidence of the man's death from poison, and that the poison were known, the body need not be opened. Having, therefore, such perfect evidence of arsenic in its various forms to lay before the jury, I did not dare to disobey orders,—which, for the sake of science, I now much regret. On Saturday an inquest was held on the body, and a verdict given that he died of the poison while labouring under temporary insanity. I should not be doing justice to the memory of Mr. Mills, if I did not add that, seeing the trouble I had undergone (in consequence of his orders not to open the body) to place the poison before the jury, he said, "I cannot, after the trouble you have evidently taken to satisfy the jury, think of offering you a less fee than if you had examined the body."

The patient wandered a little before I left him on my first visit, and thought he saw a lady and gentleman in the looking-glass. From first to last there was no attempt to rally, the pulse remaining the same. On Thursday night, the 15th, the pains increased; intensely over the abdomen, and there was extreme thirst. I saw him in company with Mr. Wade of Dean Street. Mustard cataplasms were applied to the legs. At eight o'clock next morning, July 16th, Mr. Wade saw him, and ordered a mustard cataplasm over the region of the liver. I saw him at ten: he was very impatient of the mustard, complaining of the pain it occasioned, and insisted on having it removed. He was very thirsty, and passed during the night dark bloody stools of a very offensive character. The pulse scarcely perceptible high up. He was very impatient and restless, suffering from severe internal burning pain and spasms of the extremities, and went on until about twelve o'clock, when he died convulsed; thus living within an hour or two of three days after taking the poison.

Now, some time ago in such a case as this, had arsenic been administered by a second party, the proofs being slight, and that party being shown not to have had access to the deceased for a certain number of hours, might have escaped, from the idea that symptoms could not have been delayed so long.

This case, therefore, noted at the day and hour, is conclusive as to the fact that symptoms may be long delayed, and may be of value as a guide in future cases of criminal poisoning. "Observations of this kind," says Christison, "will often prove important for deciding accusations of poisoning, for pointed evidence may be derived from the commencement of the symptoms after a suspected meal, corresponding or not corresponding with the interval which is known to elapse in ascertained cases." Here is a man taking half an ounce of arsenic at two o'clock, P.M., on July the 13th; he does not vomit until eleven at night, nine hours! the act even then being attributed by his family to a tippling sickness. His brother sleeps with him, and deposes (in accordance with his own account, for in truth, his brother being sadly frightened for himself under such untoward circumstances, I felt it my duty particularly to learn from the patient the whole facts of the case) that the deceased did not, to his knowledge, get out of bed again until half-past seven o'clock the next morning, and did not even then complain of suffering from poison, a period of seventeen and a half hours. The brother did not leave home until after breakfast, which we may fairly set down as nine o'clock, and yet no suspicion of poisoning,—a period of nineteen hours, and with such a dose! On this brother's return at twelve o'clock he first became aware of the dreadful fact, that the man with whom he had slept had taken poison, with the still more dreadful feeling that he himself might be inculpated in the matter. We observe the length of time he survived such a dose, nearly three days, as well as the fact of a week's tippling, so completely enervating, narcotising the stomach, and incapacitating it for its usual healthy action, as in its deranged state thus to delay the usual effects of the poison. We also remark the fact, that although two basinfuls had been vomited, yet there was more of the poison in the *third* than in the second, washed away as it were, and dislodged by the stream from the stomach pump. We also notice that, with all he must have suffered, he concealed for about twenty-two hours the fact of his having taken poison.

CASE OF

RECOVERY FROM AN ATTACK OF TRAUMATIC TETANUS,

BROUGHT ON BY A WOUND CAUSED BY A PIECE OF BAMBOO.

By John Elliott, M.D.

Scarborough, Tobago, West Indies.

Mary Ann Bull, negress, ætatis 25, labourer, states:—

"That on Wednesday, the 20th of November, 1850, while walking barefoot along the sea-beach, a piece of stick entered my left foot, just near the junction of the second and third toes, in an oblique direction downwards, towards the root of the little toe. The part immediately became painful, and the foot and leg swelled considerably. I kept poultices constantly applied to the wound, and, on the 29th instant, with the assistance of a pair of scissors, I drew out a piece of bamboo, about an inch and a half long, a little pointed at one end, and about the size of a quill at the other, after which the pain soon ceased, and the wound healed up and dried. On the 30th, fever and pain in the left knee came on, which extended up to the groin, causing a large swelling there. On the 2d of December I felt my neck drawn up, my jaws stiff, and my tongue swollen, for which I applied green tar, and drank the water of it. On the 4th, the fever and pain increased so much, that I was obliged to go to bed. On the 6th my whole body became cramped."

On the 7th of December I was called to see the above. I found her labouring under strong fever, and excruciating pain in the chest, extending to the back, with rigid contraction of the muscles of the neck and abdomen, aggravated by the gentlest pressure, which induced violent spasmodic paroxysms. Her jaws were stiff, her tongue much swollen, and she experienced great pain and difficulty in swallowing; her bowels were obstinately constipated. I gave her a powder containing twenty grains of calomel, six grains of the sulphate of quinine, and half a grain of the muriate of morphia, and ordered turpentine frictions to the surface of the body generally, with strong clysters of the same. In the evening I repeated the powder.

8th.—Spasms and rigidity have increased, inducing complete opisthotonos; has taken a large dose of castor oil and turpentine this morning, which brought away several thick pitch-like stools. Took four of the powders this day.

9th.—Body rests on head and heels; cold clammy sweat over the whole body, with violent spasms and continued rigidity; stools passed in bed, of the same description as before stated, only excessively offensive. Took six powders during this day, to each of which three grains of scammony were added.

10th.—Mouth sore and painful; much prostrated; stools passed involuntarily; spasms not so frequent or violent.—Ordered stimulants freely. Took six powders this day, each powder containing eight grains instead of twenty of calomel.

11th.—Mouth very painful, but not running; rigidity and spasms going off. Took four of the powders similar to those given yesterday. Stimulants and nourishment continued as before.

12th.—Profuse salivation; spasms nearly gone; rigidity gone. Powders discontinued. Ordered Black Infusion every morning, and stimulants and nourishments freely.

13th.—Spasms and rigidity quite gone, and nothing remains but excessive pain from salivation.

After this date she gradually convalesced; and, in the space of six weeks, was quite restored to health.

12th March, 1851.

P.S.—I enclose the identical piece of bamboo extracted by the woman herself on the 29th November (as per Report), and beg to remark, at the same time, that the bamboo is considered in this country to be a most poisonous wood; the slightest scratch or abrasion causing, in the majority of instances, inflammation and suppuration.

MEDICAL APPOINTMENT.

H. J. Brown, Esq. M.R.C.S.E., has been appointed Surgeon to the Parochial Infirmary of Clerkenwell. Owing to this appointment there is a vacancy in the Staff of Surgeons to the Out-door Poor.

MEDICAL GAZETTE.

FRIDAY, APRIL 25, 1851.

We are glad to find that Government has at length awakened to the absurdities of the Board of Health-Report on the Water-Supply of the Metropolis, and that we are not likely to be exposed to the risk of wanting this necessary of life from the attempt to carry out the visionary scheme of collecting rain water on Bagshot Heath, and transferring it to London in a state of unadulterated softness. We quote the words of the Report:—

"The result is, the confident assurance of all our engineering inspectors, supported by other concurrent practical testimony, that an entirely new supply of the softest water may be brought to the metropolis pure, filtered, and well aërated, and may be delivered into every house in the metropolis, on a constant supply, unlimited in quantity, for drinking, for culinary and other domestic purposes, for baths and for washing, at an average original rent-charge, inclusive of the expense of the tenant's supply pipe and tap, of 2d. per week per tenement."

Then, on the financial part of the question, we have the following sanguine statement of cost and saving:—

"As a foundation for proximate estimates, plans have been got out by our engineering inspectors *for extensive covered resorvoirs*, and for the conveyance of the water in deep conduits, also covered. They estimate the total expense of storing and bringing to the metropolis this new and improved supply, inclusive of reasonable compensation for waste land for the reservoirs, at little more than one million sterling.* We fully believe that two years' saving from the use of the purer water would fully repay this portion of the outlay."

The *Times*, adopting the statements and opinions contained in the Board of Health-Report as undeniable facts, says:—

"We must have the very best of water, in *unlimited* supplies, at the *lowest* of prices; no more sewer-washings; no more reservoirs with eight feet of filth at the bottom;—in plain words, no more dependence for one of our very first necessaries on monopolists, whose natural object it is to extort the highest possible price for the lowest possible supply." The unlimited supplies, however, here referred to, have, unfortunately for this splendid vision of comfort, only an ideal existence. We are called upon to reject the water brought to our doors by the Thames, Lea, and other rivers, because, on the one hand, it is allowed to be contaminated by sewage, and, on the other, it is often collected and preserved in dirty receptacles, and employed indiscriminately for the drowning of kittens or the purposes of drinking! It is scarcely necessary for us to remark that the sewer-washings are not introduced into the Thames water by the Metropolitan Water Companies, and that the Companies are not responsible for the filthy habits of the pauper population of London. They are not bound to supply water gratuitously any more than they are bound to find pipes for constant service, or cisterns, for every house. Water, like every other article of commercial enterprise, must be paid for; and, as in the case of bread or fuel, if persons are too poor to pay the cost, they must either go without these necessaries, or be supplied at the cost of the parish or of the Government. It is said that the charge is exorbitant; and if competition will not cure the evil, this may be a good reason for legislative interference. The Railway monopoly, so far as it concerns the poor, has been checked by the institution of a fixed scale of charges, so that the poorest person may travel cheaply and quickly. In the same way the great Water monopoly of London, admitting it to exist to the extent asserted, might be controlled by the legislature so as to remove the objection here raised against the present deficient supply. There are some persons, however, who appear to think that the only method of remedying the evil is to get rid of the present Companies altogether; and the Quarterly Review, the Times, and one of our medical contemporaries, have been busily engaged in trying to overthrow the London water supply as it is now carried on, in entire forgetfulness that the Board of Health scheme cannot be substituted for it with the slightest reasonable hope of success.

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* In order to make due allowance for the great fluctuation in the fall of rain in the Bagshot district, Mr. Rowlandson has calculated that the reservoirs must have a capacity equal to ONE THOUSAND MILLION CUBIC FEET!! See *his Report to the New River Company*, p. 12.—Ed. Gaz.

The Thames water is described by the *Times** as "water drawn from the most corrupted sources, and *charged to saturation* with organic impurities." If this statement be intended to apply to water collected in the vicinity of the Temple sewer and other *cloacæ*, it may be true; but the writer must be very well aware that water of this description is not supplied to the inhabitants of London. The West Middlesex Water, for example, taken from near Barnes, at or about high water, does not contain on an average more than 1-25000th part of its weight of organic matter; and there are few terrestrial waters, calculated for the supply of a large population, which would be found to contain less. The water of this Company is distributed over the greater part of West London: hence we presume it must be included among the waters which, according to the statement of the inventive writer in the Times, are charged to *saturation* with organic impurities!

Our daily contemporary looks more closely to the revision of its political than its scientific articles. Errors in the latter pass undetected with the mass of readers, and may thus produce irreparable mischief. Thus we find it stated by the *Water-company-abolitionist*, that "it was *shown by plain experiments* that the consumption of tea upstairs, and soap below, was affected in a ratio of sixty per cent. by the quality of the element contained in the kettle or washing tub."

In a former article we demonstrated, so far as they concern the use of soap, the gross fallacy upon which such calculations are based. We now propose to consider the allegation of waste as it relates to the making of tea, and to culinary operations generally. The Board of Health here rely chiefly on the opinions of M. Soyer, the celebrated cook of the Reform club. As there was no counsel to cross-examine him, the learned cook had it all in his own way. His evidence reminds us of the old saying, "*Ne sutor ultra crepidam;*" for, without knowing it, although a witness for the plaintiff, he proved the case for the defendants. He first told the Board that the Thames water was "hard and inconvenient:" it had sometimes a disagreeable taste; this, however, was found to be owing to the *cistern*, "which we remedied." In boiling cabbage and other vegetables, hard (*i. e.*, Thames) water gave them a yellow tinge: it particularly shrivelled greens, peas, and French beans. The process of boiling is also longer (amounting to one-fourth), and it required more fuel! He then proceeds in answer to the questions of the Board:—

> "What do you find to be the effect of hard water upon the *animal foods?* —Upon salt beef the hard water is not so good: *it does not open the pores of the meat so freely as soft water*. On fresh meat it likewise has a prejudicial effect, but not equal to that on vegetables. It has the effect of making very

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* April 21, 1851.

white meat whiter than the soft water: upon all delicate things it has, however, a more marked effect—for example, in making beef-tea, chicken or veal broth, or upon lamb; and the more delicate a substance is, the greater is the influence of a hard water upon it. *A hard water, as it were, compresses the pores*, whilst a soft water dilates them and the succulent matter which they contain. *It makes them more nutritious*. The evil of hard water is more visible in small quantities, such as broth or beef-tea.

"Then it will be more prejudicial or expensive in domestic cookery, which must be in small quantities?—Exactly so; in the larger operations, where there is much boiling, the boiling itself, and for a long time, reduces the hardness. In the small quantities requisite for invalids and delicate persons, the disadvantages are the most experienced. When I used Thames water at Gwydyr House, I have had quantities boiled in order to soften it, and have then let it get cool, and kept it ready for use for the smaller operations."

We will leave our readers to digest this beautiful theory of M. Soyer's, in which we are invited to believe that Thames water, containing *when boiled* not more than 1-12000th of its weight of calcareous salts, acts by *compressing* the pores of meat, and rendering it less nutritious! According to the Reform cook, *one grain* of a salt of lime dissolved in twenty-seven ounces of water has the remarkable effect of compressing the pores of beef and mutton, rendering them less nutritious, making very white meat *whiter*, and, at the same time, causing the boiling operation to be continued for a time one-fourth longer than that required when *soft* water is employed! This is a very ingenious theory of the mechanical and chemical action of hard water: it appears to have completely satisfied the Board of Health, for they have recorded this culinary nonsense in type without a single comment.

We pass now from the kitchen to the parlour, in order to examine the evidence respecting the *sixty per cent.* waste of tea described by the writer in the *Times*. Here, again, M. Soyer's views and opinions were received:—

"What is your experience in respect to *tea?*—The hard water is injurious in deteriorating the flavour; it also requires more tea to give an equal strength. There can be no doubt that the *softer* water is of very great importance: we have found it so with the water used at the Reform Club, which is *Artesian* well water.

"In respect to coffee, what is your experience?—Hard water produces a similar effect, but not quite so powerful.

[The witness was requested to obtain more particular or closer proximate results as to the comparative value of Thames and the Artesian well water in making tea, taking into account flavour as well as strength of extract.]

"Have you made the examination as to the comparative effect of waters of different qualities in the preparation of tea?—Yes, I have. In making the experiments, as time is of importance for the effect as well as for economy, I thought it proper to take an account of it. For culinary purposes, I am confident *that that water which boils the quickest is the best:* and I conceived that this might be ascertained in respect to tea. I took samples of the common tea in use by the population, green tea and tea of a third class, and prepared them with equal quantities of water: I took, as the standard of soft water, distilled water, which I obtained from Apothecaries' Hall. The whole results were more striking than I had previously anticipated. The softest or distilled water had an extraordinary power in obtaining a *quick extract:* the result showed perhaps too high a power, for it draws out the woody flavour. Next to it was the Artesian well water, which is one-third less hard than the Thames water. I should, indeed, prefer that water to any other tried in these experiments. Although the distilled water draws out the aromatic property of the tea more than the Reform Club water, it does not, I think, produce so good an extract. Each water gives its own shade, and had its own distinct extract

"Are you confident as to the difference in the time of boiling between hard and soft water?—My experiment was with pints of water, in the same size stewpan, with a gas lamp, so that the heat was manageable, and the same in both cases; and there was certainly a difference of full two minutes in favour of the boiling of the soft water; and the same result was given in several experiments.

" From these experiments, and your extensive knowledge, will you state the general results as to the relative power of the hardest and the softest water in making tea?—I should say that, whilst with the hard water three cups might be made, with the soft water about five might be made.

" What extra expenditure of tea, then, would the use of the Thames water incur in making tea?—Nearly one-third.

" That is on all the tea consumed in the metropolis?—Yes, I have no doubt of it."

We invite our readers who may be curious in these matters, to test for themselves the statements of M. Soyer regarding the alleged different action of boiling distilled and boiling Thames water on equal weights of tea. Theory is one thing, fact is another. We have seen infusions made with distilled and West Middlesex as well as with East London water, under similar circumstances; and neither by colour, nor by the application of tests for tannic acid to measured quantities of the infusions, could any difference whatever be perceived. M. Soyer entirely forgets what he has already stated, that Thames water is greatly softened by boiling, and that he is, therefore, no longer making his infusion with *hard* water. But we are told that the softest or distilled water makes a *quick* extract, and that it has too high a power, for it drew out a woody flavour : hence the softest water, according to this witness, is not the best fitted for the purpose, while the theory of the saving of tea, *i. e.*, one-third or 33 (not 60) per cent., is based upon the comparison of this with the Thames water! If the result were as it is alleged by Soyer, we should still reject his inference as irrelevant; because the Board of Health do not propose to supply Londoners with forty-four millions of gallons of distilled water* daily, nor, so far as we can ascertain, do they propose to supply this quantity of Reform-Club-water, which, according to their culinary authority, is better adapted than the Thames or distilled water for producing a good extract of tea. Seriously speaking, however, the grave gentlemen who constituted the Board of Health allowed M. Soyer to assert, without comment or inquiry, that Thames water containing only 1-12,000th of its weight of calcareous salts (in the boiled state) caused an actual waste of *one pound* of tea out of every *three pounds* consumed by a London family! They have printed this statement under the wild idea that it would be believed. People would naturally look for Soyer's experiments on the infusions of tea with Bagshot water which the Board of Health propose to send to us in " unlimited supplies at the lowest of prices," but under the head we find *nil.* There is one question only about the use of Farnham water for cooking; and the learned authority here states nothing particular in its favour ; but merely that " the Artesian well-water is somewhat better than the Farnham water." Thus, then, Soyer's comparative experiments with tea are founded on two waters, one of which (distilled) no one ever thinks of putting into a tea-kettle, and the other (Artesian) which can only be procured in limited quantities.

M. Soyer is evidently quite innocent of any knowledge of the difference between *soft* and *pure* water. All Artesian water is soft, not because it is pure or free from saline matter, but because it contains much carbonate of soda. Before condemning the Thames water, therefore, for not producing effects which he observed with Artesian water, he should have been advised to place it in the same condition by adding to it a proper quantity of carbonate of soda. This would have precipitated much of the lime, and softened the water: and softening is evidently the main thing with M. Soyer. He would probably then have found that the Thames water, instead of boiling *two minutes* later, would have boiled at the same time as the soft water.

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* The daily metropolitan consumption according to the Report.

The witness, in asserting that the action of water on tea is a fair test and representative of its action on meat and vegetables in general, in all the delicate processes of cookery, fortunately furnishes us with a reason for his assertion which entirely invalidates his conclusion. Thus he says he took *the solution* of 16° of hardness, and compared it with the water from the well of the Reform Club. He tried it—

> "first, with vegetables, that is, carrots, turnips, and onions, cut into small pieces of about one inch long, and an eighth of an inch square, such as are used in Jullienne soup, placed in two saucepans, with the same quantity of water, and on the same gas-stove: those cooked in the Reform water were quickly done, and the flavour of the vegetables in the water; whilst those cooked in the solution never became tender, nor did the flavour go into the water. Secondly, with potatoes: I cut a peeled potato into two, and boiled them at the same time in the above waters; the difference was easily distinguishable, that which was boiled in the hard water being harder, but at the same time whiter. Thirdly, in extracting the juice or gravy from meat: the soft water does so quickly and well, but the hard water, instead of opening the meat, seems to draw it closer together, and to solidify the gluten, and I believe that the true flavour of the meat cannot be extracted by hard water. In the boiling of salt meat less salt is extracted when boiled in hard water, and at the same time the meat is not so tender as when boiled in soft water. Soft water evaporates one-third faster than hard water. I should, in every way, give the preference to soft water, but, at the same time, if very tender meat is required to boil very white, hard water should be used."

We must here explain to our readers that *the* water of 16° of hardness is an artificial compound of distilled water, holding in the gallon about twenty grains of chloride of calcium, derived from the action of hydrochloric acid on sixteen grains of pure carbonate of lime. Dr. Clark calls this a solution of 16° of hardness, and employs it as a means of comparison in his soap test; but, because it is stated that Thames water has a hardness of 16°, Soyer jumps to the conclusion that it is identical with Thames water! He therefore boiled his "carrots, turnips, and onions, cut into small pieces, about one inch long and one eighth of an inch square," in a *pure solution of chloride of calcium*, and found that they did not become tender, and that the flavour did not go into the water! On the contrary, Artesian water (containing carbonate of soda) cooked them quickly and gave the flavour. We need hardly remark that Soyer's experiments are about as apposite to the question at issue, as if he had boiled his vegetables in the water of the Dead Sea! The chloride of calcium in water has effects wholly different from those of carbonate of lime: there is no deposit on boiling, and the water can never be made softer by this process. As a curious instance of the effect of prejudice, however, we find it stated that potatoes were *hardened* and *rendered whiter* by being boiled in the water containing chloride of calcium! Hardness like softness has one well-defined meaning with this *artiste*. Hard water, on whatever substance the hardness may depend, will not cook vegetables, it will only make meat very white, and compress its pores!

The question of the change or persistence in the present mode of water supply is made to rest upon such loose, ignorant, and unscientific statements as these. We have disposed of the Soap, Tea, and Cooking questions; and at a future time we propose taking another, of infinitely greater importance to the public health,—namely, the action of *water on lead*. We shall have to pass here from the evidence of Reform cooks to that of journeymen plumbers; and, as we believe, to expose such a mass of sophistry and inconsistency as is not often to be found in a document purporting to be of a public nature and to affect the public interests.

Reviews.

Letters on the Laws of Man's Nature and Development. By HENRY GEORGE ATKINSON, F.G.S., and HARRIET MARTINEAU. 12mo. pp. 390. London: John Chapman. 1851.

A FEW words will express our opinion of this production, and a very few extracts therefrom will, we think, confirm the justice of that opinion.

This book is an essentially bad book. Its principles are those of unblushing, daring, atheism. Its object is to persuade those who are weak enough, or ignorant enough, to be so persuaded, that Henry George Atkinson and Harriet Martineau are the first individuals who have been endowed with real wisdom, while all philosophers before them have been hypocrites and impostors. Moreover, it is evident that in this work they have combined to decry the truth or necessity of religion, and even to deny the existence of a God!

The words of these two pseudo-philosophers are here quoted from Letter xviii., "H. G. A. to H. M." "There are other minds still in the transition state, not wholly released from supernaturalism and the habits of thought which they have acquired; and these, desiring sympathy and a continued existence, please themselves in the belief of a God and a future." (p. 206.) In the same benighted strain does this writer go on very fully. In the next letter, xix., "H. M. to H. G. A.," Miss Martineau thus expresses herself:—"I am glad I asked you in what sense you used the words 'God,' 'origin,' &c., for your reply comes to me like a piece of refreshing sympathy,—as rare as it is refreshing." Then a little further on we have this atheistical confession:—"There is no theory of a God, of an Author of Nature, of an origin of the universe, which is not utterly repugnant to my faculties; which is not (to my feelings) so irreverent as to make me blush; so misleading as to make me mourn. I can now hardly believe that it was I who once read Milton with scarcely any recoil from the theology."

We were fully prepared, by the perusal of Miss Martineau's account of her travels in Egypt, to find in any of her writings a wide divergence of opinion on matters theological, from those, happily, held by the majority of thinking people, but little did we expect such a "recoil" as is here exhibited, and which carries Miss Martineau so far beyond the limits of truth, reason, or decency, as must amaze herself in her calmer moments, or during the absence of *mesmeric* influences.

Our readers will expect to be informed as to the nature of the wisdom which so enlightens these two writers, and where that wisdom is to be found. They will, we doubt not, be as much surprised as ourselves at that "scientific basis" which has placed them alone in the right position to arrive at sound (?) knowledge, while other "men have been wandering amidst poesies, theologies, and metaphysics, and have been caught in the web of ideal creations, and have to be brought back again to particulars and material conditions; to investigate the real world, and those laws of being and action which are the form and nature of things, and the phenomena which they present, as they are here, within us and about us in reality and truth, and not as we would fancy them to be." (H.G.A. to H. M., Letter ii. p. 5.) The writers would enlighten and reform "a world full of superstition and hypocrisy," but they "do not wish to dispute with any men, about their belief or morals, or their laws of expediency;" but modestly affirm, "that all the systems of the whole world are wrong;—they being all founded on error, in the ignorance of natural causes and material conditions." We find, then, and we almost hesitate to inform our readers, that the only true and infallible means whereby to interpret nature is *Animal Magnetism!!*—the only sound, reasonable, and reverent system, whereby the phenomena of nature are to be explained, and the destiny of man is to be discovered, is in the doctrines of Mesmer.

Let us next see how Christ's miracles and doctrines are identified with mesmerism. "H. G. A." remarks—

> "Mr. Sandby, in his interesting work on 'Mesmerism and its Opponents,' has confidently asserted that no comparison can be made between the facts of mesmerism and the supposed miracles of Christ. Mr. Sandby wholly overlooks the fact that Christ (taking the narrative as it stands) was constitutionally a *clairvoyant;* that he had the 'gift of prophecy,' and the ability to read men's thoughts, and to know the nature of their diseases, and their cure. He listened to the voice within him, as somnambulists do. He had his attendant spirit, as Socrates had; and this voice of the intuitive faculty, he, like Swedenborg and others, believed to be the voice of God. He believed that he was divinely inspired—a missionary, a prophet, the child of God; and out of this other delusions arose, as in all similar cases; and the carpenter's son, like the boy Davis in America, astonishes men with his learning. He prays and fasts, and is subject to ecstatic fits, which are termed transfiguration. He possesses an extraordinary power to influence others, and to heal diseases, on account of his peculiar abnormal condition; and he has a belief in an almost invincible form of faith; that is, if you will but have faith in your ability, you may move mountains." (p. 211.)

In the same blasphemous strain does this writer speak of other of Christ's acts:—

> "That he had not always 'clear sight' is shown by the instance of his going to the fig-tree, and being disappointed that there were no figs; and are we to approve of his declaring, therefore, that the tree shall henceforth bear no fruit? Surely these are not the doings of pure intelligence and high morality." (p. 213.)

We could quote much more to the same effect, but we will not further soil our pages with such infidel ravings: neither would further extracts be needful to support our statement that "this is an essentially bad book." The persons who can declare that "philosophy finds no God in nature; no personal being or creator, nor sees the want of any;" and who can assert that never "has a God revealed himself miraculously"—must, it is self-evident, have searched nature in a very different spirit, and in a directly opposite direction, to that in which it was searched by a Newton.

We are not at all astonished to find Miss Martineau confessing that, after thirty years' study—

> "It is strange to think how many books I have read, and how often over, and what an amount of hours I have spent in thinking, and how many hundreds of human beings I have watched and speculated upon, without being ever, for one moment, satisfied that I knew what I was about,—for want, I suppose, of some scientific basis for the inquiry."

We are quite prepared to expect that such should be the case when a scrutiny of man's position, hopes. and destiny is conducted upon a basis which totally excludes the only trustworthy guide—the volume of Holy Writ. Miss Martineau and her copartner in atheism will, we strongly suspect, before long find themselves as much at sea as ever, not knowing "what they are about." For aught that is apparent in this work it might have been the written records of the reflections of two heathens, who, having found some books of human learning, have studied them, and, thirsting for still higher knowledge than that of the mere material phenomena of the world, find themselves strangely bewildered. Their state may be not unaptly described in the words of a writer whom our readers, we believe, will regard as of some authority:—

> "That which may be known of God is manifest in them; for God hath showed it unto them. For the invisible things of Him, since the creation of the world, are clearly seen, being understood by the things that are made, even His eternal power and godhead; so that they are without excuse; because that, when they knew God, they glorified Him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened. Professing themselves to be wise, they became fools."

What other than fools can they be who can thus reason?—

> "I am what I am. I cannot alter my will, or be other than what I am, and can-

not deserve either reward or punishment. And why should I require another life, or form of the same consciousness, or the same individuality and identity? . . . Why should I live on in the future rather than have existed through the infinite past,—as some imagine they have done?"

Such are the wretched conclusions to which the unassisted human reason is sure to arrive on this subject. Some of the ancient heathens had, however, proceeded farther; they had discovered irrefragable proofs within them and around them, of a future life; while these modern pagans, after so long and laborious a rejection of revelation, and misdirected study of nature, sit down calmly, rejoicing that mesmerism teaches them the comfortable and delightful doctrine of future annihilation, or mere material decomposition and change of form.

Elements of Electro-Metallurgy. By ALFRED SMEE, F.R.S., &c. &c. Third edition. 8vo. pp. 364. London: Longmans. 1851.

THIS work, which is beyond dispute the best production of Mr. Alfred Smee's pen, has met with great favour at the hands of experimentalists, and of the reading portion of the public. It has rapidly passed through two editions, and the third is now before us. With reference to this edition, the author remarks:—

> "In reviewing my former experiments, I saw that in many directions there was abundant scope for investigation. From my present occupation, however, I did not feel justified in following these alluring paths, and I have been compelled to content myself with adding to this edition some account of the processes and experiments which have been carried on by others. From this source alone this work has been increased about one-sixth in bulk. Throughout all the editions, it has been my aim to write from my own knowledge; and, therefore, unless the text expresses to the contrary, I have actually witnessed the processes which have been detailed."

The present edition, Mr. Smee also states, "enables us to take a review of that which electro-metallurgy has absolutely effected."

This work is so extensively known and read, that we shall not now further occupy our readers' attention than by strongly recommending it to the notice of all who may feel interested in the interesting applications of electricity, which are working entire revolutions in many branches of our manufactures and industrial arts.

Of the Crystalline Lens and Cataract. By BERNARD EDWARD BRODHURST. 8vo. pp. 243. London: Churchill. 1850.

THE author in this treatise adopts a different classification of cataracts to that usually founded on the opacity of the lens, and has arranged these under the heads of inflammation, malformation, and wounds; under which classification he considers that each variety of opacity will be more perfectly known, and a treatment more appropriate to each will thence ensue.

The structure of the crystalline lens, in its natural state, forms an introduction to the study of this organ in disease. The characters and structure of the iris and papillary membrane are also treated by Mr. Brodhurst.

The author arranges the various kinds of cararact in a tabular form, according to their origin from inflammation, deficient nutrition, accident or wound, and congenital disease. Each individual form is fully traced in its symptoms and history, and is illustrated by cases. The diagnosis, prognosis, and treatment are also fully discussed. This is a very creditable monagraph.

On a Remarkable Effect of Cross-Breeding. BY ALEXANDER HARVEY. M.D., Physician to the Aberdeen Royal Infirmary, Lecturer on the Practice of Medicine in the University of Aberdeen, &c. &c. Pamphlet, 8vo. pp. 39. London and Edinburgh: Blackwood. Aberdeen: Wyllie.

THE fact on which Dr. Harvey here offers remarks, is the following:—A male animal, that has once had fruitful connection with a female, may so influence her offspring begotten by *other* males, as, to a greater or less extent, *engraft* upon them his own distinctive features;—his influence thus reaching to the subsequent progeny in whose conception he himself has had no share.

This fact has long been familiar to dog-breeders. Dr. Harvey here traces the same occurrence among other animals, with reference to its importance in an agricultural point of view. It is undoubtedly also a fact having physiological interest, and the more so, as instances of the kind have been observed in the human race. The explanation of this law which the author appears to favour is that of Mr. M'Gillavray, that it results from an inoculation of the blood of the mother through the placental circulation: at the same time, the author admits and cites examples of the influence of mental impressions acting through the mother upon the progeny.

This paper will amply repay perusal, and will, we trust, draw attention to the subject.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 8, 1851.

JOSEPH HODGSON, ESQ., F.R.S., THE PRESIDENT, IN THE CHAIR.

On the Relation of Sleep to Convulsive Affections. By WM. FREDERICK BARLOW, M.R.C.S., Resident Medical Officer to the Westminster Hospital.

THE author began by observing, that although very interesting observations on the subject would be found scattered through medical writings, it had not hitherto received anything approaching the attention which it merited. There were a variety of cases in which spasmodic movements were well known to be wont to surprise the sleeper; as might be proved by epilepsy, laryngismus stridulus, tetanus, asthma, cramp, the muscular contractions provoked by fractures, the startings, more or less severe and general, which almost every one must have experienced on falling into slumber, &c. Epilepsy would ensue just before, during, or immediately after sleep; sometimes it was quite restricted to that period, and in so remarkable a manner that sleep and epilepsy might in such a case be held to be related as cause and effect. A broad distinction was to be made between the epilepsy of *imperfect* and *perfect* sleep: the former was, most probably, oftentimes owing to troubled dreams, whereas the latter was generally, if not always, referable to physical irritation, centric or eccentric. The sleep, too, which followed this appalling affection, should be industriously watched, as it was very likely to merge into a coma, wherein other convulsions would occur.

The author then spoke of the spasmodic actions which took place or could be excited in paralytic limbs during the time of slumber. This division of the subject, whereof the contribution contained some illustrations, had, though very instructive, been almost entirely neglected.

The author, after mentioning some indications of treatment, passed on to the consideration of the causes of the convulsions, direct or predisposing, which happened during slumber. They might be chiefly comprised under the four heads of

I. The state of the circulation and respiration.

II. The condition of the motor force and muscular irritability.

III. The emotion of dreaming.

IV. The withdrawal of the will.

The author entered largely into the two latter topics. Dreaming had a very ample, and not often unsuspected connection with the event of convulsions. There was the horror of the dream, which was sometimes most intense, and there was the compression also which remained; and the agitation of mind was surely never likely to be more hurtful than when the brain was congested, the irritability replenished, the passions ungoverned, the respiration unmodified, volition at rest. The *causes* of dreaming had a most wide, though in great part indirect, relation to those of convulsions. Of this the paper contained illustrations.

Great stress was laid on the withdrawal of the will. The fact had been abundantly and variedly proved, that, cæteris paribus, reflex movements, and also involuntary movements not reflex, were occasioned with a facility that was inverse to the power of volition; but it was one, how glaringly important soever, which had by no means been duly and fully applied to the solution of the nature of certain convulsions which surprised in sleep. This was it that would furnish the key of explanation to very many of them.

The author then drew the attention ot the Society to some observations made by him on sleeping children; to some ingenious remarks by Professor Volkmann, which tended to support his own conclusions; to some experiments of Dr. Marshall Hall, and some others, which he had recently made himself on hybernant animals; and to various phenomena to be witnessed in man, animals, and insects, which, however unlike in some respects, uniformly and emphatically concurred to show how often, and how extremely, a quiescent will tended to the production of spasmodic affections. Some convulsive affections of the sleeper and waker often contrasted greatly in this: in the first there could be no opposition from volition, no effort to subdue them; in the second, there was not, rarely, an evident, and sometimes a successful, striving of the will. The author, availing himself of an expression to be found in the Novum Organum, proposed to call those instances wherein there was a manifest contention between causes of action, "*wrestling* instances."

The withdrawal of the will had an indirect relation to the convulsions of sleep, from being the cause of dreaming, the emotion of which was more perilous, speaking generally, than that of the waking state, on account of its being free from antagonism; for the dreamer was unable to reason on his delusion, and so dispel it.

The author dwelt, finally, on those convulsive affections which were benignly influenced by sleep, their temporary cure, and so contrasted as much as possible with those he had already discussed. The convulsive affections might be separated as to kind by a broad line of demarcation drawn between them by sleep. How often did it happen in perplexing instances that the influence of sleep directed the diagnosis! Emotion took much part in all those convulsive affections which were wont to subside when the mind was at rest. The reason of their being thus potently affected was easily readable in their history. The author instanced certain motor local nervous affections, paralysis agitans, mercurial erethism, and chorea, as being wonderfully under the sway of slumber, and concluded that some convulsive motions which had been observed in these diseases during the sleeping period were owing to mental agitation, and formed no exceptions to that general law whereby the tranquillizing effects of sleep upon them was so correctly expressed. A considerable portion of the paper was, owing to its extent, left necessarily unread.

Dr. **Mayo** spoke of the great interest connected with this subject, and that, even without anything new being advanced, it would be impossible to describe the series of facts already advanced on this subject. He next spoke of the accumulation of mucus which sometimes takes place during sleep in bronchitis and pneumonia, harassing the patient very much in waking to rid himself of it, and how important it was in epilepsy to have some person to change the patient's positions, and prevent suffocation. Dr. Mayo thought that spasmodic diseases, epilepsy among the rest, was a state of action without power, and that sleep enabled the patient to recover that power. The effect of sleep was, in cases of insanity, he said, wonderful, and considered if a patient passed two or three nights in mania without sleep, death was inevitable; and concluded his observations by saying that this subject should lead to the consideration of the use of sedatives, and the action in proving sleep.

Dr. **Wilson** said he should be sorry such an opportunity for interesting discussion should pass away, for that to him nothing was more interesting, or, to the practical physician, more important. Dr. Wilson appeared to think that the author of this paper attended exclusively to the nerves in his views on sleep, and to the mechanical state of the vessels; and he (Dr. Wilson) did not consider mere congestion—viz., red face, puffed and swollen—induced sleep; for he thought anæmia had much more to do with it: he then referred to a case which occurred under his care in the hospital; the man was a mere skeleton, and was exhibited for the purpose of showing to what extent emaciation might be carried without producing death. In hospital he was labouring under diuresis, and passed from fourteen to sixteen pints of water in the day, being asleep most of his time, and only awaking to relieve his bladder. After death a cavity or two was found at the top of the lungs; the brain was in a state of anæmia: and Dr. Wilson said he could not help regretting that the author of the paper had not directed his attention to the state of the blood itself as inducing spasm and sleep, for he considered that experience would prove sleep more or less connected with spasm, and that when we know more of spasm we shall know more of sleep. In continuation, he observed, sleep may possibly have to do with the amount of carbonic acid generated in the system; for that no act of nutrition took place without its generation, and that we could not more closely imitate sleep than by the action of carbonic acid. He (Dr. Wilson) next spoke of an officer, who, committing suicide by burning charcoal in a room hermetically closed, had described his sensations for a considerable time previous to becoming insensible. Dr. Wilson regretted Mr. Barlow had confined his attention to reflex action of nerves inducing sleep. Cyanosis, he said, was given as an example of congestion; but in this disease the blood, he observed, is poisoned: he thought the aeriform volume of the blood should be well considered, and referred to the instant relief ether gives in spasm, where opium fails, and attributed the use of the former to its gaseous qualities, and remarked how tetanus could be produced by injecting strychnia into the blood, even where injury to a nerve, however severe, could not accomplish this for some time; and in conclusion referred to a lady on whom the sting of a wasp had produced sleep on more than one occasion.

Dr. **Webster** said that Dr. Mayo had mentioned that if sleep, in cases of insanity, was not induced, death became inevitable. Now this he thought was an important practical question, but one on which he (Dr. Webster) would differ with Dr. Mayo, for he had remarked how frequently in delirium tremens we find patients many nights without sleep, and yet recovering effectually.

Mr. **Barlow** replied to the observations of Dr. Mayo and Dr. Wilson. Dr. Mayo had remarked on his not having alluded to the subject of insanity; he had only to say, that his paper was entitled, On the Relation of Sleep to Convulsive Affections, and not on the relation of sleep to insanity. He had to thank Dr. Wilson for his manner of alluding to the importance of the subject. Dr. Wilson had remarked that no sufficient allusion had been made to the condition of the blood. He (Mr. B.) in a part of the paper (not read to the Society) wherein he had spoken of the causes of dreaming, had referred, so far as his knowledge permitted, to the effects resulting from changes of that fluid; but he did not doubt that Dr. Wilson, who was well known to have devoted great attention to the blood, would have much more fully observed upon its state, had the subject now before the Society been introduced by that physician. Mr. Barlow concluded by thanking the Society for the long and patient attention given to his communication.

Dr. **Wilson** said, with respect to Mr. Barlow's remark about two consecutive pages not being written on sleep, that although it was not pleasant to refer to a book written by himself, yet in a work published some years since, six or eight pages were devoted to this subject.

Mr. **Barlow** said he had availed himself of the valuable observations of Dr. Wilson, but he intended to say that no two consecutive pages were written on the subject of sleep in connection with convulsions.

Dr. **Mayo** observed, with reference to his remark as to how long a patient can live without sleep, that unless the patient was continually watched, no one could say whether, in cases of recorded want of sleep for several days, whether such really was the case or not, for even a very short sleep would regenerate nervous influence and prolong life.

Dr. **Heale** said, that in attempting to destroy a cat, fastened in a box, by carbonic acid, he found it produced no tranquillizing effect, for he had to kill the animal by chloroform, to relieve the state of spasm which the carbonic acid produced.

Dr. **Wilson** referred to the effect of carbonic acid in producing insensibility on looking in brewers' vats, and mentioned its well-known effects in experiments on dogs.

Dr. **Heale** said, there were cases of asphyxia produced by the gradual absorption of carbonic acid into the system.

The **President** said, that in future the papers to be read on the next evening of meeting would be announced, and the following, he observed, would be brought before the Society on the next evening of meeting,—viz.,

On the Use of Chloroform in Diseases of the Lungs, by Mr. Wells.

On the Use of Chloroform as an Anæsthetic Agent, by Mr. Robert Dunne.

On Heat and Electricity as Medical Agents, by Mr. Marshall.

WESTERN MEDICAL AND SURGICAL SOCIETY.

April 4, 1851.

The fifth Anniversary Meeting of this Society was held on the 14th inst. in the large room at the Cadogan Gardens, Sloane Street. There was a very full attendance, both of visitors and members, on the occasion. Among the latter were the Presidents of the London Medical, and of the Harveian Societies.

The chair having been taken, at eight o'clock, by the President, Dr. Robert Lee, F.R.S., the Report of the Council was read by the Honorary Secretary. From this document it appears, that the Society continues to prosper, there being a greater number of members upon the roll than at any previous period of its existence. It was stated that 165 volumes had been added to the Library during the past year—comprising books of great and acknowledged reputation of all kinds—medical classics, books of reference, and modern works of scientific or practical interest. This was the largest addition that had been made in any one year: the Library now contained above 700 volumes, a catalogue of which was in preparation, and would soon be distributed to members. The report then alluded to the valuable communications which had been made to the Society, and went on to notice an alteration which had been made with regard to the meetings, which were in future to be held on alternate Fridays from October to May. To conduct the business of the Society more efficiently, there was also to be an additional Secretary. The finances were shown to be in a satisfactory condition. Finally, the report alluded to the *objects* for which this Society had been instituted

—the union of the whole body of the profession resident in the western suburbs of the metropolis for the purpose of mutual improvement, the interchange of kindly feeling, and the advancement of the science and art of medicine. Congratulating the members on what had been done, it reminded them how much there was yet to do, and what great need there was of exertion on the part of every one of them to maintain the character of the Society, and to extend its usefulness. The spirit which had animated them hitherto, and the kind feelings which had been exhibited towards the Society by those members of the profession who were not yet in cooperation with it, encouraged the Council to believe that it would continue to extend, and that their great object would ultimately be accomplished.

This Report was unanimously adopted, as was also a Resolution conveying a vote of thanks of the Society to the President and Officers for their services during the past year.

Dr. Robert Lee (who was very warmly received) acknowledged the resolution, and spoke as follows:—

Gentlemen,—From the Report of your Council, which has now been read,it appears that this Society during the past year has been in a prosperous condition—that its members have increased in number—that none have been removed by death—that interesting communications have been made and read at the meetings, and that animated and profitable discussions upon these have taken place. I may now, therefore, congratulate you on the present flourishing state and on the future prospects of this Society, and express a well-grounded hope and conviction, that if the objects of its founders be steadily kept in view, at no very remote period it will become one of the most influential medical associations of the metropolis. Since its institution, you have derived from it all the advantages which can be obtained from such a Society, where you have often met together as professional brethren and as men of science, and have brought together,as into one focus or centre, for common consideration and discussion, the results of all the most important observations made in practice. I feel confident that you have derived great benefit from such discussions—that your devotion to medicine (which your late President affirmed to be 'an indifferent and irksome trade, but a noble and interesting science') has greatly increased—that the field of inquiry, and the correspondent grasp of your minds, have been enlarged by such intellectual exertions. Discussion, the collision of conflicting opinions in public associations, such as this, are the great means by which truth is elicited, empiricism curbed, and the adoption of crude hypotheses and rash conclusions prevented. You have all learned by these discussions that the great principles of medicine "are not to be adopted without due questioning and examination." In a word, gentlemen, you have derived, and will continue to receive, from this Society, all the advantages which scientific men of every class, throughout Europe, have obtained from similar associations, in the course of the last 200 years, and which have been so well described by the great French mathematician, La Place—"The chief advantage of learned societies," he says, "is the philosophical spirit to which they may be expected to give birth, and which they cannot fail to diffuse over all the various pursuits of the nations among whom they are established. The isolated scholar may, without dread, abandon himself to the spirit of system; he hears the voice of contradiction only from afar. But in a learned society, the collision of systematic opinions soon terminates in their common destruction, while the desire of mutual conviction creates among the members a tacit compact to admit nothing but the results of observation, or the conclusions of mathematical reasoning. Accordingly, experience has shown how much these establishments have contributed, since their origin, to the spread of true philosophy. By setting the example of submitting everything to the examination of a severe logic, they have dissipated the prejudices which had too long reigned in the sciences, and which the strongest minds of the preceding centuries had not been able to resist. They have constantly opposed to empiricism a mass of knowledge against which the errors adopted by the vulgar with an enthusiasm which, in former times, would have perpetuated their empire, have spent their force in vain. In a word, it has been in their bosoms that those grand theories have been conceived, which, though far exalted by their generality above the reach of the multitude, are, for this very reason, entitled to special encouragement from their innumerable applications to the phenomena of nature, and to the practice of the arts.

Gentlemen, for the honour you conferred upon me in electing me President of this Society I entreat you to accept of my warmest and most grateful thanks. Your first President was an eminent physician; your second, a very distinguished surgeon; the third, who has now the honour of addressing you, was chosen their successor because he had zealously devoted a great part of his life to the study, the practice, and the teaching of midwifery. These being the grounds of your choice, and the greater number of you being extensively engaged in the same department of practice, perhaps you will allow me to offer a few general remarks on the progress of midwifery since the commencement of the present century, and its condition at the present time.

The sound principles of English midwifery established by the labours of the Chamberlains, Gifford, Chapman, Smellie, Hunter, and other distinguished men, were set forth in the most perspicuous manner by Dr. Denman, in 1788, and were then reduced to aphorisms or fixed maxims, which many students and practitioners committed to memory. The rules laid down by Dr. Denman so explicitly for the treatment of all the varieties of human parturition, natural, difficult, preternatural, and complicated, are those which still guide the great body of English accoucheurs with safety at the present time. None of these rules have undergone any essential modification; and all the reports of lying-in hospitals, public institutions, and private practice, since published, have only tended to fortify these precepts. The induction of premature labour, first proposed in 1756, and which will ever be considered as one of the greatest triumphs of English midwifery (equal, if not superior, in importance to the invention of the forceps, also of English origin), had received but little notice at the time Dr. Denman wrote; but, with the greatest authority, he bore testimony to its safety, efficacy, and morality, and pointed out with greater precision than had been done before the circumstances which ought to guide us in the performance of the operation. The induction of premature labour has since been had recourse to in a great number of cases, and its safety and efficacy completely proved, not only in the slighter, but in the highest degrees of distortion of the pelvis; and thereby the danger of craniotomy, and the necessity for the Cæsarean operation, have been averted. But the induction of premature labour has been found applicable not only to all the forms and degrees of distortion, but to ovarian, uterine, and bony cysts, and tumors obstructing delivery; to cicatrices of the vagina, malignant diseases of the os and cervix uteri, organic diseases of the heart and lungs, dropsy of the amnion and general dropsy, renal and vesical diseases, mania during pregnancy, and especially in cases where life is endangered by obstinate vomiting during gestation.

A knowledge of the anatomy and physiology of the gravid uterus," says one of our highest authorities, "is the foundation of midwifery,—the sole security of the accoucheur amidst all the dangers of practice, and his truest guide in every difficult situation: every rule of practice, every precept, must be derived from this source." Great additions have been made to our knowledge, both of the gravid and unimpregnated uterine systems, during the last thirty years. The human ovum in the ovarium before impregnation has been seen and demonstrated, and unimpregnated ova have been proved to exist in the Graafian vesicles of all animals. The changes which take place in the human ovaria every month have been observed, and the phenomena of menstruation explained. The changes, also, in the human ovaria after conception, and the structure of the corpus luteum, have been determined. Great light has also been thrown on the physiology and pathology of the human ovum, both in the earlier and the latter months. The double circulation in the placenta, as first described by Mr. Hunter, has been experimentally decided to exist; and the course of the maternal blood through the decidual membrane and decidual cavity has been accurately marked out. The ganglionic nervous structures of the uterus, on which its peculiar sensibility, contractile powers, and innumerable sympathies depend, have been displayed, analogous to nervous structures which have also been shown to cover the surface and pervade the walls of the heart. The diagnosis of pregnancy, within the last quarter of a century, has almost been rendered perfect, by the employment of auscultation and other means. Within the same period all the organic diseases of the uterine organs, all the malignant, non-malignant alterations of structure, all the varieties of tumors and polypi, have been subjected to the most elaborate anatomical research, and the varied appearances they exhibit have been represented by the most distinguished artists. It is now universally admitted that important additions have recently been made to our knowledge of puerperal diseases.

From this brief survey of the progress of midwifery since the close of the last century, you will perceive that the science has been steadily and rapidly advancing. The result of all this has been that the importance of midwifery, though tardily and reluctantly, is now generally acknowledged, and those who practise it occupy a much higher rank in the profession than they did thirty years ago. It is therefore painful in the highest degree to be compelled to allude to the efforts which are now incessantly being made by certain false teachers who have crept into some of our public schools and universities, to debase uterine pathology by empirical proceedings, and to pervert and corrupt the sound principles of English midwifery. To you, gentlemen, the greater number of whom I know personally to be practitioners of great experience, it is unnecessary for me to denounce the indiscriminate employment of the speculum, and the application of the actual and potential cautery to the os and cervix uteri, disorganizing their structures; to denounce the folly and absurdity of rubbing the lining membrane of the virgin uterus with lunar caustic, to excite what has been termed a menstrual effort, in cases of amenorrhœa and chlorosis; to denounce the practice of passing up unguentum hydrargyri fortius with a catheter into the cavity of the uterus, to dissolve fibro-cartilaginous tumors, which are as hard as brickbats, and nearly as insoluble; to condemn, as mischievous and senseless, all the strange metallic rings and prongs with hidden springs, and all the impaling uterine machines of every description, constructed for the purpose of relieving imaginary retroversions or backslidings of the womb; to deprecate the practice of slitting and cutting open the os and cervix uteri in all directions, with hysterotomes for the cure of sterility. Lastly, it is unnecessary for me to denounce to you as an outrage against science and humanity, substituting for the induction of premature labour in cases of distortion the employment of the long forceps, the operation of turning when women are stupified by chloroform, and even the Cæsarean section, which Mauriceau declares cannot be performed—"Sans un trop grand exces d'inhumanité, de cruauté, et de barbarie."

But, gentlemen, these evil practices, which I have felt it to be my bounden duty to denounce to you, and which I entreat you to resist, cannot endure. Sound principles will always triumph; and I have good grounds for expressing my confidence in the stability of the great fundamental doctrines of English midwifery. They are built upon a rock, which cannot be shaken.

On the 24th March, 1851, the Royal College of Surgeons of England adopted the following resolution:—"That the Council of this College are prepared to form and superintend a Board of Examiners in Midwifery, or to cooperate with the Royal College of Physicians in the institution of Examinations for testing the qualifications of Practitioners in Midwifery." If this resolution be carried into effect, and examiners be appointed who have specially devoted themselves to the study, the practice, and the teaching of midwifery, which I have no doubt will be the case, most important consequences cannot fail to result, not only to the public at large, whose interests are deeply involved in this measure, but to the whole body of the medical profession. Surely the Council of the College is entitled to our support on this occasion; and I earnestly hope and trust that this support will not be withheld by any one whom I have now had the honour to address.

The PRESIDENT resumed his seat amidst loud applause.

The following gentlemen were then elected to fill the various offices during the ensuing year:—

President.—Dr. Robert Lee, F.R.S.

Vice-Presidents.—Dr. Aldis, Mr. Barnes, Dr. Cahill, Mr. Godrich.

Treasurer.—Dr. Woolley.

Council.—Dr. Barclay, Mr. Bullock, Dr. Christian, Mr. Haden, Mr. Martyn, Dr. Simpson, Dr. Traquair, Mr. Batten, Mr. D. Davies, Mr. Sampson, Mr. Webb.

Secretaries.—Dr. Seaton, Mr. Keen.

Auditors.—Mr. Meates. Mr. Whitmore.

The proceedings terminated by a conversazione. In the course of the evening Mr. Toynbee was kind enough to give a demonstration of his recent researches into the structure of the membrana tympani, illustrated by diagrams and preparations.

CHEMICAL SOCIETY.

April 7th, 1851.

DR. DAUBENY, PRESIDENT, IN THE CHAIR.

THE following papers were read:—

On the Composition of the Waters of the Dee and Don at Aberdeen, with an investigation into the action of Dee Water on Lead Pipes and Cisterns. By JOHN SMITH, M.D., Fordyce Lecturer on Agriculture, and Assistant in the Chemical Laboratory of Marischal College.

The subject of this paper is discussed under the following heads:—

1. *General characters of the districts drained by the rivers Dee and Don.*—The sources of the Dee lie amidst lofty granite mountains. The length of country traversed by it is about 80 miles, or 65 miles in a straight line, and the extent of country which it drains about 900 square miles. Its banks are gravelly, its flow pretty rapid, and the alluvial deposits few, and of limited extent. From the small proportion of clay and peat in its course, its waters are usually quite clear.

The water for the supply of Aberdeen is taken from the Dee about two miles from its mouth, and quite beyond the reach of the tide water. It percolates through the gravelly sides and bottom of the river into drains, and is there pumped to the highest level of the town. It is distributed through iron mains, and taken into the houses by small lead pipes, to which lead cisterns, generally of small dimensions, are commonly attached. The supply is constant, and amounts to about one million gallons per day.

The sources of the Don lie immediately north of the districts drained by the Dee, and comprise a less extensive area, including mossy ground, encircled by granite hills. Its course is about 60 miles in length to Aberdeen, or about 45 miles in a straight line. The mountains among which it runs contain more limestone than is found in those about the Dee. Hence the waters of the Don contain more lime, and are more coloured by peat than those of the Dee.

2. *Composition of Dee Water.*—A specimen taken some miles up the river on the 24th of September, 1850, three days after heavy rain, was found to contain in the gallon four grains of solid matter, consisting of

Carbonate of lime . . .	0.850	grains
Sulphate of lime . . .	0.121	"
Sulphate of magnesia . .	0.323	"
Chlorides of potassium and sodium	0.670	"
Phosphates of lime and iron .	0.080	"
Silica	0.140	"
Organic matter and loss .	1.816	"
	4.000	"

This specimen had a brownish tint, whereas the Dee water is generally colourless, and in other respects it was less pure than usual. A second specimen, taken when the river was in its usual clear and transparent state, yielded three grains of solid matter from the gallon, of which only 0.4 of a grain was organic matter, or volatilized by heat.

3. *Composition of Don Water.*—Two specimens of this water were examined, one taken about a mile from the mouth of the river, and the other about thirty-five miles higher up. The former was found to contain 8·65 grains of solid matter in the gallon, of which three grains consisted of organic matter; the latter contained five grains of solid matter in the gallon, of which 1·2 grains was organic. The composition of the solid contents of a gallon of the first specimen is thus represented:—

Carbonate of lime . . .	2.18	grain.
Sulphate of lime . . .	.17	"
Sulphate of magnesia . .	1.00	"
Chlorides potassum and sodium	1.32	"
Phosphates of lime and iron .	.38	"
Silica	.60	"
Organic matter . . .	3.00	"
	8.65	"

4. *Action of Dee Water on Lead.*—About forty trials were made with the view of ascertaining the action of Dee Water on the pipes through which it is conveyed to the houses. These pipes vary from twelve to one hundred yards in length. In some instances no indications of the presence of lead, in the water which had passed through the pipes, were found; in others, however, small quantities of lead were detected in solution. The quantities varied from less than 1-100th of a grain to about 1-20th of a grain of lead in a gallon of the water.

From an inquiry into the influence of the use of this water upon the health of the inhabitants of Aberdeen, in connexion with what has been observed elsewhere, the author concludes that less than 1-20th of a grain of lead in the gallon of water produces no deleterious effect upon the health of those using the water for dietetical purposes, and that the limit of the deleterious action is between 1-10th and 1-20th of a grain of lead to the gallon of water.

On a Pecular Property of Ether and some Essential Oils. By Dr. C. F. SCHŒNBEIN.

The property referred to by the author is similar to that which phosphorus has been long known to possess, when put, under certain circumstances, in contact with pure oxygen, or with atmospheric air, of developing a highly oxidizing agent, which has been called ozone.

The author finds that if a little pure ether be put into a bottle filled with pure oxygen or atmospheric air, and exposed to diffused light, the bottle being occasionally shaken, the ether, after the lapse of four months, will have acquired new properties. Although producing no action upon blue litmus paper, it will discharge the colour of solution of indigo, convert pure phosphorus when immersed in it, into phosphorous acid eliminate iodine from iodide of potassum, change pure sulphate of protoxide of iron to the basic and acid sulphates of the deutoxide, transform yellow prussiate of potash into the red salt, convert sulphuret of lead into the sulphate, &c.

Similar effects are produced with oil of turpentine and oil of lemons when treated in the same way as the ether.

The author expresses an opinion that the property which these substances thus acquire is due to the presence of oxygen in a chemically exalted condition.

MEDICAL SOCIETY OF LONDON.

PRESIDENT—DR. MURPHY.

April 12, 1851.

DR. HENRY BENNET read a paper on the *Diagnosis of Inflammatory Diseases of the Cervix Uteri, and on the use of Potassa Fusa or Potassa cum Calce in their Treatment.*

The mucous membrane lining the cervix uteri and its cavity, a highly organized membrane, and one abundantly supplied with mucous follicles, was extremely liable to inflammation and ulceration. The slighter and more fugitive forms of inflammation to which this mucous surface was liable, no doubt gave rise only to slight and fugitive symptoms, and were consequently scarcely ever seen by observers who, like himself, never even thought of bringing the organs in question into view unless the local symptoms were intense, or, being slight, were intractable to ordinary treatment, and connected with equally intractable general symptoms. Owing, no doubt, in a great measure, to the circumstance of the molimen hæmorrhagicum of menstruation generally aggravating and feeding the diseased condition, inflammation in this region, however, too slight in the first instance to be noticed, often became confirmed, and ended in ulceration, when a host of decided local and general symptoms usually appeared. The tendency of confirmed inflammation of this mucous membrane to end in ulceration was so great, that out of 243 cases of inflammation, attended with decided uterine symptoms, treated by him at the Western General Dispensary, in 222 slight or severe ulceration was present. The local symptoms were, pains in the lumbo-sacral, ovarian, hypogastric, and inguinal regions, as also pains down the thighs and legs; sensations of weight and bearing-down, accompanied by more or less difficulty in standing and moving; derangement in the menstrual function, assuming the form of dysmenorrhœa, menorrhagia, amenorrhœa; vaginal discharges; constipation, or diarrhœa; irritability of the bladder, &c. The general symptoms were principally dyspeptic, neuralgic, and hysterical conditions, entailing, secondarily, defective general nutrition, and consequent debility and anæmia. When all, or nearly all, the local symptoms enumerated existed, the examination of the uterine organs was at once indicated and sanctioned, as it was all but certain, not only that disease existed, but that it was of long standing, and had produced structural changes which could only be remedied by local surgical treatment. If one local symptom was present but in a marked and constant manner, with or without general symptoms, the existence of disease was very probable, but no examination was warranted until ample local means, such as injections and proper general treatment, had been tried. Lastly, the mere existence of disordered general health, of depraved functional activity, of dyspepsia, hysteria, anæmia, &c., in the absence of uterine symptoms, was no proof whatever of the presence of uterine disease; although the lengthened duration of these conditions, and their proving intractable to the usual treatment, ought to lead us to minutely scrutinize *verbally* the state of the uterine functions. By thus minutely weighing the symptoms, general and local, and by submitting *doubtful* obscure, cases to the test of general and non-surgical local treatment, a conscientious and scrupulous practitioner need seldom, if ever, make an unnecessary physical examination. Even when such an examination was deemed advisable, the use of the speculum ought never to be thought of until a careful digital investigation had confirmed its necessity. The morbid conditions of the body of the uterus, as to size and position, could only be recognised by the finger, the speculum giving no information, and the finger of the practitioner, with whom it had been educated by the eye, was also the safest guide as to the necessity for further examination. If the os was found open, so as to admit one or two fingers, or even the tip of one finger; if the cervix was enlarged and indurated; or if its surface was velvety and soft, the use of the speculum was indicated. The open state of the os was a very valuable symptom, as it was nearly always the evidence of ulceration occupying the surface, or of inflammation penetrating the cavity of the os uteri. If a speculum examination was then decided on, the cervix ought to be brought fully into view, so as to reveal even its vaginal attachments, and in a sufficiently good natural light to show even a speck of dust on any part of its surface. If, moreover, the lips were morbidly open, they should be separated by a bivalve speculum, with the assistance of the uterine sound, so as to allow the eye to penetrate into the os as far as possible. The lesions thus brought to light were the lesions which characterize mucous membrane similarly diseased in all parts of the human economy—those produced by inflammation and ulceration. He, and the continental pathologist who had preceded him, had described, under the head of granular inflammation, chronic inflammation of the cervical mucous membrane, unattended by any solution of continuity, and characterized by the hypertrophied condition of the mucous follicles strewn over its surface, which gave it a kind of strawberry appearance. They also gave the name of ulceration to all solutions of continuity, the result of morbid action, and characterized by the existence of pus or sanies secreting erectile granulations, such as are formed on all sores and wounds healing by second intention, and that whether the granulations were so microscopic as to constitute a mere abrasion or superficial ulceration, or so large as to constitute a luxuriant fungous sore. Such conditions responded to and tallied with the definitions of ulceration given by all classical writers. Some of his opponents had denied that the lesions found in this region were ulcerative, and had endeavoured to make the profession believe that they were merely forms of "granular inflammation." They had never, however, deigned to explain what they meant by granular inflammation, or given a definition of it. If it was their intention to repudiate the established nomenclature of surgery, and to give to what had hitherto been called ulceration the name of granular inflammation, he for one would not object to the change, provided it could be established that such a change was desirable and necessary. But in the meantime, he repudiated the term as thus applied. In a communication recently read before the Society, it had been stated that there was no proof before the profession that ulceration ever existed in the virgin. Although he was fully aware that he did not, unfortunately, possess the confidence of the author of the paper alluded to, he was surprised to find such a statement made, considering the publicity he had given to the case furnished to him by Mr. Anderson, his late colleague at the Western Dispensary. It would be seen by the examination of the uterus of Mr. Anderson's patient, a young female of eighteen, who died of acute disease, with an intact hymen, which uterus was in the hands of the members, that a large inflammatory ulcer occupied the os and its vicinity. Even if his experience and statements were repudiated, this case ought to have brought conviction to the mind of the practitioner to whom he referred. He would take this opportunity of again asserting, as he had ever done, that the physical examination of a virgin female could only be warranted by severe and intractable disease, and ought always to be looked upon as a last resource,—as one not to be contemplated until after months or even years of unavailing general and non-surgical local treatment. Indeed, as he had stated in his work, it ought not to be taken by any practitioner on his own responsibility, unless his position as a consulting authority in female disease warranted his so doing. The rules which guided him in the treatment of the local element in these inflammatory affections of the neck of the uterus might be stated in a few words—it was the treatment followed in all chronic inflammatory diseases situated in a position attainable by surgical means. If acute or subacute inflammation was present, it ought first to be subdued by antiphlogistics and astringents; and if the morbid action still persisted, it should be modified and converted into healthy vital action by direct stimulation of the diseased tissues. This indication was obtained, in successive stages of intensity, by the nitrate of silver, solid or in solution, by the mineral acids, and lastly, by the actual cautery and potassa fusa, or potassa cum calce, which he preferred. Potassa cum calce was first introduced as means of stimulating unhealthy uterine sores, and of melting induration in this region, by M. Gendrin, of Paris. When, however, he himself left Paris, nine years ago, it had not been adopted by other practitioners. He could claim the merit of having introduced it to the profession here, and of having greatly simplified its action and use by running it into free cylinders, which could be used as easily as those of nitrate of silver, and with nearly as little risk. He had used it in scores of cases, for fourteen years, without accident, and did not consider there was any reason for apprehension, provided the operation was skilful and cautious. At the same time he never applied it to *destroy* indurated tissues, but merely to set up eliminatory inflammation, under the influence of which the indurated parts softened and melted. When applied to the os, care ought to be taken that the orifice of the cervical canal did not subsequently close too much. He had had several cases from the country, treated by other practitioners, in which the os uteri was all but closed, for want of these precautions. He had never found any difficulty in redilating the narrowed os; but it was better to prevent such a result occurring than to remedy it when produced.

Dr. Beck spoke at great length on the subject of the paper. He denied many of the statements of the author. First, he said the mucous membrane of the cervical neck was not highly vascular. He denied that the uterus was connected by the sympathetic nerve with most of the other organs of the body. He declared that cellular tissue did exist in the uterus. He denied that ulceration of the uterine neck frequently existed in virgins, and declared that the use of the speculum was not warranted in some of the cases mentioned by Dr. Bennet, in which a single symptom was persistent. He then ridiculed the notion that severe disease of the womb could exist for a long time in connection with a state of "robust health," as had been stated in one of Dr. Bennet's cases. He called into question the accuracy of the definition of ulceration, as given by Dr. Bennet, and denied that an open state of the os uteri was necessarily pathognomonic of inflammation. He denounced the potassa fusa as a dangerous remedy, and related a case in point, in which this remedy, with a series of what appeared to be barbarous operations, had been performed upon a young woman, who it was said had closure of the os uteri. Dr. Beck, however, refused to furnish the Society with such information as was thought necessary by the President and some of the fellows to substantiate the case.

Dr. Tilt spoke of the difficulty of diagnosing between mere erosion and ulceration, and mentioned a case in point; but in practice the distinction is not so important, as they required the same kind of treatment. With respect to a patulous condition of the os uteri, it at all events indicated that something was wrong. He agreed in the main with all that had been advanced by Dr. Bennet.

Dr. Barnes, in relation to the open state of the os uteri, did not regard it as necessarily pathognomonic of inflammation; it might exist as the consequence of fibrous tumors spreading into the cervix, and opening the os by mere mechanical pressure, or the open state might be the result of previous inflammation. He agreed, however, with the proposition of Dr. Bennet, that when it did exist local treatment would be required. He was surprised to hear Dr. Beck speak against examination of the virgin uterus when certain symptoms were present, seeing that he (Dr. Beck) had resorted to the practice in a case lately related to the Society. He (Dr. Barnes) had used the potassa fusa in four cases with the best results. He had followed Dr. Bennet in the Western Dispensary, and had therefore seen the same class of cases as those referred to by that gentleman in his work; and candour compelled him to bear his testimony that his observations carried out the correctness of those of Dr. Bennet in the main.

Dr. Henry Bennet, in reply, stated that Dr. Beck seemed so thoroughly to disagree with him in all his views on uterine pathology, that he thought it best to leave the questions raised in the hands of the members and of the profession. He would merely correct two or three of the many misrepresentations and inaccuracies into which Dr. Beck had fallen in the course of his criticisms. He would first, however, remind the Society that the anatomical details which he had given respecting the uterus were given on the authority of the first classical writers of the day, and represented the present state of science. If Dr. Beck, or any other anatomist, was able to throw any additional light on the subject by bringing the microscope to bear on it, he would be the first to adopt the data thus obtained when once they were fairly established. No one could or did appreciate more highly than himself the great amount of labour and skill shown by Dr. Beck in his dissections of the uterus; and he could only regret the unmitigated opposition which he (Dr. Bennet) met with from Dr. Beck. He would briefly add, that he had never said or written that severe uterine disease was common in virgins, but exactly the reverse; that he had most positively given no case in his work in which a virgin female was examined because she had a slight pain in her back the first day of menstruation; and that on examining the uterus Dr. Beck had shown to the Society that evening he did not see any evidence of an abnormally open state of the os uteri. This condition in inflammation he referred to paralysis of the muscular fibres that lay underneath the inflamed mucous membrane. This paralysis also occurred in acute bronchitis, giving rise to emphysema; and in enteritis, giving rise to tympanitis. Of course there were exceptions to the rules which he had laid down, as Dr. Crisp and Dr. Barnes had very properly said. What he had stated was merely that inflammation of the os and cervical canal opening the external orifice—an open state of the os, as recognised by the finger—was a suspicious circumstance which authorized further inquiry. A fibrous tumor, or pregnancy, or even cancer, might evidently render the os patulous without inflammation being present.

April 19, 1851.

Dr. Burke Ryan read an abstract of a paper

On the Communicability of Gonorrhœa, in reference to Medical Jurisprudence.

He was called on the 15th of the present month to examine two children, sisters, aged respectively one and four years. He found both labouring under a profuse puriform discharge, on the elder child of a fortnight's duration, in the younger of nine days. There was much fever; the parts, particularly in the elder, much swollen, and both suffered great pain in passing water.

The mother had no notion of the nature of the affection until an old woman, calling accidentally, told her the children were diseased. The explanation soon followed. A young woman in the house laboured under profuse gonorrhœal discharge, as the mother of the child saw by her linen. This young woman was observed washing herself in the same vessel used for washing the children, and using the same sponge to her private parts as was used for them.

Had there been but one child, Dr. R. remarked, he might have passed it over as an ordinary, yet aggravated, case of vaginal discharge in a child; but as there were two consecutively affected sisters, of this tender age, with the infection's cause so easily traceable, he thought it worthy of record, and endeavoured to make it as plain as possible by further enquiry. He therefore saw the young woman. She had gonorrhœa, under which she laboured during the last two months, using no means for curing it. She said she *did* use the children's sponge, as mentioned, but thought it more probable that the eldest child having sat upon the same vessel as herself, to pass water, was thus infected, and that the second took it from the sponge used for both. Some of the discharge was taken from *each of the three*, and the valuable assistance of Mr. Quekett sought for. He examined them under a magnifying power of 500 diameters. In that from the children there was scarcely anything but pus globules, thick and well defined. The discharge from the young woman, in whom the disease had been wearing itself out during two months, was of a more sanious character. There was epithelium in abundance: a few mucous, and also pus globules, diffused, but occasionally more aggregated.

Mr. B. Ryan remarked on the paucity of well recorded cases of this nature given by elementary writers. Indeed, some of our best authors say that gonorrhœa is communicated by impure connection, and there leave the matter. Thus, Cooper says, "From the manner in which the disease is contracted," &c. Liston :—"That people come with all sorts of stories—as of water-closets," &c. Forsyth speaks of it as a disease "after impure coition." Beck, speaking of vaginal discharges in children, where strong suspicions were entertained by a third party, of the discharge being gonorrhœal, bestows not the least attention in pointing out how the disease may be contracted in the manner above related, and how, consequently, undeserved suspicion may attach to an innocent person, to be followed perhaps, as heretofore, by punishment. And Taylor, in giving, as one of the four sources of evidence of rape, the existence of gonorrhœa, adds shortly after :—"If the child be labouring under syphilis or gonorrhœa, this is positive evidence of impure intercourse either with the ravisher or some other person."

Now, in the cause of humanity Dr. Burke Ryan considered it our duty in such cases as these to take care that no innocent person suffered, for had this disease not been so easily traced to its source, or that there had been any suspicion of foul play from lads or men who had access to the children, or had the character of the inflammation, instead of the red and sthenic, partaken of the epidemic form, with its deep coloured appearance and dark tints, bespeaking signs of violence, as spoken of by Lawrence and others, then the same fate might perchance befall the suspected individual as befell the boy whom Beck mentions as having been condemned to die on account of the death of Jane Hampden, aged four, who, from a vaginal discharge, died in a few days, having slept in the same bed with the boy. The surgeon on whose evidence he was condemned soon had reason to believe the child had fallen a victim to an epidemic. Or, suspicion might be awakened as in the parents of two children, one aged four, and the other six, mentioned by Capuron, where they declared violence had been used. The mother of the children in the present case, while agitated extremely, was yet thankful that it was not to her own person she had applied the sponge, as in such case nothing could ever clear her with her husband. As many well authenticated cases as possible should be placed on record. There is no reason why people should not contract disease from the seats of water closets; and in the case of a virtuous and truthful woman who labours under gonorrhœa, and yet denies having had improper connection, it would be a painful thing, and repugnant to all feelings of charity, not to give her the benefit of a doubt. Her after happiness might depend on our decision, and we should well weigh the *pros* and *cons* before giving an adverse opinion.

ACADEMY OF MEDICINE, PARIS.

April 1, 1851.

Electrical Apparatus.

M. Soubeiran read the report of a Commission upon the electrical apparatus of MM. Breton, Duchenne, and Pulvermarck.

Articulations of the Female Pelvis.

M. Lenoir read an essay which contained a new theory of the condition of the pelvic bones during pregnancy and labour. He submitted these conclusions :—1. That the junctions of the bones of the pelvis should not be included—as by anatomists generally—among the amphiarthrodia, but should be placed with the arthrodia.

2. That the analogy of structure and function induces the author to consider that an accumulation of synovial fluid is the cause of the separation of the bones at the periods above mentioned.

April 8, 1851.

On the Employment of Impermeable Varnishes in Visceral Inflammations.

M. Robert Latour stated that it was some months since he had submitted to the Academy his treatment of inflammatory disease by covering the surface with impermeable varnish. Since that period M. Latour has treated cases of ovaritis, and of peritonitis, with a success beyond that attending any other plan. A case of peritonitis was related in which the whole abdomen having been covered with a coating of collodion, the symptoms rapidly subsided.

Pathological Specimens.

M. Bouvier communicated a fatal case of strangulation of the small intestines by a diverticulum of the ileum; and presented the parts as removed after death.

M. Danyau presented a fibrous tumor which he had removed during labour from the posterior lip of the uterus, and which had formed an obstacle to delivery. The presentation was that of a hand with the head after the removal of the tumor. Turning was performed, and the case terminated favourably.

ACADEMY OF SCIENCES, PARIS.

April 7, 1851.

Therapeutic Properties of the Fruit of the Cedron.

M. Dumas, in the name of M. Lewy, presented the following note:—

In the warmest parts of New Grenada, in the Sierras Calientes, a tree is met with which attains to a very large size, and which is named by the natives, Cedron (Simaba Cedron). The fruit of this tree resembles in appearance the nux vomica, and, like that, is distinguished by its extreme bitterness. The natives attribute to it great virtue in the treatment of the bites of serpents, in hydrophobia, and in intermittent fevers. It is given in doses of five centigrammes (= 0·77212 Eng. gr.), in the form of a powder, mixed with brandy. In larger doses this fruit acts as a violent poison. M. Lewy has discovered that its active properties reside in a principle which he has succeeded in separating, and to which he has given the name of *cedrine*.

Medical Intelligence.

COST OF IRISH DISPENSARIES.

According to a return laid before the House of Commons, there were in 1849, 668 dispensaries in Ireland, 68 fever hospitals, and 36 infirmaries, and the county presentments received by them amounted respectively to £38,017, £12,205, and £27,582. In 1850 the number of dispensaries was 628; of fever hospitals, 48; and of infirmaries, 34; the county presentments amounting respectively to £34,334, £8,974, 19s., and £22,564.

THE JACKSONIAN PRIZE.

The President and Council of the Royal College of Surgeons have awarded the Jacksonian Prize to Charles Toogood Downing, Esq., M.D., of Great Russell Street, Bloomsbury, for his essay on Neuralgia; its various forms, pathology, and treatment.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

We beg to remind our readers that the Annual Dinner of this Society will take place to-morrow (Saturday) at the Thatched House, St. James's Street.

EPIDEMIOLOGICAL SOCIETY.

At the next Ordinary Meeting of this Society, to be held on Monday, the 5th of May, at the house of Royal Medical and Chirurgical Society, a paper will be read, entitled "Onthe Mode of Propagation of Cholera," by John Snow, M.D.

As Mr. R. H. Clarke could not be present at the meeting in May, to read his paper "On the Epidemic Mental Diseases of Children," the reading of that paper has been deferred until June.

COUNTY LUNATIC ASYLUM, GLOUCESTER.

Mr. Thomas Allen, M.R.C.S.L., L.S.A., and of University College, London, has been appointed to the office of Assistant Medical Officer.

ROYAL DISPENSARY FOR DISEASES OF THE EAR.

The annual meeting of the friends of this charity was held on Wednesday afternoon. The report stated that the institution had now been in operation upwards of thirty years. During the past year 976 patients had been received, of whom 550 were cured, 160 were relieved, and 266 remained under treatment. The patients consisted generally of clerks, needlewomen, domestic servants, artisans, distressed foreigners, sailors soldiers, and police. The chief causes of loss of hearing were living in confined or damp localities, intemperance, want of cleanliness and out-of-door exercise, insufficient or adulterated food, wet feet or clothing, and sleeping in damp beds or rooms.

ROYAL COLLEGE OF PHYSICIANS—MEMBERS ADMITTED.

At the quarterly meeting of the Comitia Majora, held on Monday, the 14th inst., the following members, having undergone the necessary examinations for the diploma, were admitted members of the College:—Dr. Meryon, 14, Clarges Street—Dr. Hall Davis, 17, Russell Place, Fitzroy Square.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 10th April, 1851:—Walter Kerr Waller, Lymington, Hants—John Wills, Shaftesbury, Dorsetshire—Walter Smith, Caistor, Lincolnshire — Watkyn Rhys, Abendare, Glamorganshire—John Davies, London—James Hartley, Bury, Lancashire — John Jame Ritchie, Tean, Staffordshire — Charles Mathias Meller, Ecclesfield, York.

Admitted on Thursday, the 17th inst.:—Edward Evans, Cardiff—Lewis Newnham, Uckfield, Sussex—George May, Reading—James Backhouse Bindloss, Manchester—Edward Higgon Evans, Treffgame Hall, Haverford West — Hugh Norris, South Petherton—William Johnson Rowland—John Hebden, Scarborough—Charles Morton Sidley, Leicester.

OBITUARY.

At his residence, 70, Newman Street, J. S. W. C. Carter, Esq., M.D., aged 45, grandson of the late Thomas Carter, Esq., of Repton, Derbyshire.

On the 17th inst., at St. Clement's, Jersey, Charles Williams Poingdestre, Esq., M.D., aged 51.

At Buenos Ayres, on the 3d of February, after a residence of more than thirty years in that city, James Lepper, Esq., of Strabane, in the county of Tyrone, Ireland, retired surgeon in the Royal Navy.

On the 18th inst., at the residence of his brother, 21, Upper Phillimore Place, Kensington, Henry Smith, Esq., surgeon, late of Torrington Square, in his 51st year.

Selections from Journals.

CASE OF HYDROMETRA—SPONTANEOUS CURE.

This case is reported by Dr. D. H. Storer, United States:—

The patient was a large and very fleshy woman, thirty-five years of age, and weighed about 230 pounds. In June 1849, I saw her for the first time, and received the following history: that she had been married three times, and had borne five children by her first husband, but none since. Previously to the last two years, she had suffered but little at her menstrual periods; but since then the pain at such times had been intense, and, not unfrequently, shreds of membrane had been expelled. The second night after her third marriage, about three months before the above date, she was attacked immediately after sexual intercourse with a profuse hæmoptysis; and this had repeatedly occurred upon any great effort, and generally during or immediately after connection. She had never raised blood before, and had never suffered from pulmonary disease. She did not belong to a phthisical family.

For a few weeks past she had perceived a swelling in the abdomen: thought herself to be pregnant, and insisted that she could distinguish the motions of the child, and that her sensations were precisely such as she had always experienced when in this situation. The catamenia, though diminished, occurred at each regular period. An examination of the abdomen was made through the dress, which, however unsatisfactory, determined me that she was not pregnant; and so I endeavoured to persuade her, but could not.

In January, more than six months after I first saw her, I was sent for, and found her in bed; complaining, as she expressed it, of all the symptoms which she formerly experienced, when pregnant, and anxiously expecting to be confined. Her abdomen was much distended; there was slight tenderness on deep pressure, and she still insisted that she felt the motions of the child. Upon examination of the abdomen, which was loaded with fat, I could detect no defined firm tumor; and I could hear no placental murmur, nor the sound of the fœtal heart. The areolæ were darker, she said, than they ever had been in her former pregnancies; and milk was secreted by the breasts. The catamenia had continued to occur regularly since June, though scanty, and with great distress. Upon examination per vaginam, I found the neck of the uterus not obliterated; the body was enlarged, and yielded upon pressure, as if no solid substance was contained within it. I again told her that she was not pregnant; gave her a drastic purgative, which operated freely, and visited her for a day or two, during which she became more comfortable.

On the 12th of March, supposing herself to be pregnant, I was again sent for. I found it was a menstrual period, and that while she was suffering severe pain, about a quart of orange-coloured fluid suddenly flowed from the uterus, and she supposed the membranes had broken. About two gallons of this fluid escaped during the following week; after which it ceased for a week; and then, during a day and night, a quantity passed which it was supposed would fill an ordinary water-pail. For the last week (April 8th) there has been no flowing. A catamenial period is now present, and the pain she has suffered for two years is absent; she experiences no inconvenience, has diminished much in size, and weighs about thirty pounds less than she did a week ago. — ***American Journal of the Medical Sciences.***

BOOKS & PERIODICALS RECEIVED

DURING THE LAST TWO WEEKS.

Observations on the Diseases of the Rectum. By T. B. Curling, F.R.S.

Practical Remarks on the Treatment of Aneurism by Compression. By Jolliffe Tufnell, M.R.I.A.

A Child's First Hour. By a Physician.

Remarks on Spasmodic or Asiatic Cholera, and its true Pathology. By M. M'Dermott, M.D. T.C.D.

A Practical Analysis of Seventy Cases of Inflammatory Disease of the Heart, &c. By S. Scott Alison.

Lectures on Clinical Medicine. By J. H. Bennett, M.D. No. 4.

The Prescriber's Pharmacopœia. By a practising Physician. 4th edition.

Inaugural Essay on Zoo-adynamia. By G. J. Ziegler, M.D.

Report of the County Lunatic Asylum near Gloucester. 1850.

On the Adulteration of Coffee, &c.

The Boston (U.S.) Medical and Surgical Journal. Monthly Series, March.

Annales d'Hygiène et de Médecine Légale. Avril 1851.

Comptes Rendus. Nos. 13 et 14, 31 Mars —7 Avril.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 11, 12, and 13, 15—29 March.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·77
" " " Thermometer[a] ...... 46·3
Self-registering do.[b] .... Max. 83· Min. 25·3

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·02.— Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 8° *below* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 19.

BIRTHS.		DEATHS.	
Males....	706	Males....	554
Females..	719	Females..	444
	1425		998

CAUSES OF DEATH.

ALL CAUSES	998
SPECIFIED CAUSES	974
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	217
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	43
2. Brain, Spinal Marrow, Nerves, and Senses	120
4. Heart and Bloodvessels	41
5. Lungs and organs of Respiration	171
6. Stomach, Liver, &c.	62
7. Diseases of the Kidneys, &c.	15
8. Childbirth, Diseases of Uterus, &c.	8
9. Rheumatism, Diseases of Bones, Joints, &c.	4
10. Skin	3
11. Premature Birth	27
12. Old Age	48
13. Sudden Deaths	0
14. Violence, Privation, Cold, &c.	25

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	18	Convulsions	30
Measles	35	Bronchitis	83
Scarlatina	8	Pneumonia	52
Hooping-cough	62	Phthisis	108
Diarrhœa	12	Lungs	14
Cholera	0	Teething	14
Typhus	37	Stomach	3
Dropsy	11	Liver	7
Hydrocephalus	34	Childbirth	1
Apoplexy	19	Uterus	6
Paralysis	22		

REMARKS.—The total number of deaths was 64 *below* the average mortality of the 16th week of *ten* previous years.

NOTICES TO CORRESPONDENTS.

Dr. C. Morehead, Bombay.—We are obliged by the communication, which has safely come to hand. It shall be inserted in an early number.

Dr. John Elliott, Scarborough, Tobago, W. I.—The publishers will make arrangements to forward the journal regularly, and we shall be happy to hear occasionally from our correspondent.—The piece of bamboo was enclosed in the letter.

M. D., Cork.—We quite agree with the writer, but do not consider it necessary to publish his letter. We often find much "old news" in the same publication.

We are much obliged to our old contributor, Dr. C. H. Jones, for his case of Obscure Disease of the Kidney.

Mr. W. Smith, Belper.—We have to acknowledge the receipt of the second paper on Scrofula. We will make arrangements for their speedy insertion.

Mr. C. Taylor.—We have to apologize for the delay in commencing the publication of the paper. It is occasioned by the necessity of printing off various communications which were previously in type, or the insertion of which had been promised.

RECEIVED.—Dr. Burke Ryan.—Dr. [illegible].—Mr. Hawtayne.—Dr. Samuel Thomson.

Lectures.

CLINICAL LECTURE ON DILATATION OF THE STOMACH AND SARCINÆ VENTRICULI.

(Delivered at King's College Hospital.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by H. H. Salter, M.B., Dem. Anat. K.C.L.]

Lecture XXII.

Case—Frequent vomiting—character of the vomited matter—Sarcinæ—diagnosis—a similar case of enormously dilated stomach—principles of treatment—what are Sarcinæ?—they occur in dilated stomachs—Are they cause or consequence of diseased stomach?—Cases—Goodsir and Busk's cases—experiment—Conclusion.

Gentlemen,—In to-day's lecture I shall make some observations on a very interesting case of chronic vomiting, which we have every reason to believe depends on organic disease of the stomach.

The case is that of William Rogers, who was admitted into Rose Ward on the 14th of October, 1848. He is 38 years of age, a sallow unhealthy looking man, and has been engaged in literary pursuits; his habits have been sedentary and temperate; he had always enjoyed excellent health until three years immediately preceding the date of his admission, when he suffered severely from dyspepsia, indicated by pain in the stomach after eating, flatulence, and sour eructations; to these symptoms he would obtain temporary relief by forced vomitings. During this period his circumstances have been bad, and he has consequently suffered great privations, and frequently had recourse to alcoholic stimulants to supply the place of food, or to relieve the fits of depression consequent on his dyspepsia.

Four months before his admission he was seized one day suddenly in the street with a fainting fit, and was taken into one of the metropolitan hospitals. On coming to, he felt very weak and faint, and having taken a dose of castor oil, he passed a considerable quantity of black blood; as much, he said, as a pint. He remembered to have had just a similar attack five years before, and on that occasion he passed blood likewise. For the last year he had been subject to attacks of palpitation, which had increased considerably since the last fainting fit.

The attacks of palpitation were accompanied by severe pain in the region of the stomach, and tenderness there, and sometimes with vomiting, which was generally followed by complete relief. These attacks would last two or three hours, and he would sometimes have them several times in the day.

When he came into the hospital he was in a very hæmorrhagic condition; he had purple spots on his legs and arms, and a scorbutic appearance generally: this agreed with the account he gave of himself, as having been reduced by bad living. I accordingly treated him for this scurvy, and gave him citrate of iron, and better food: his symptoms, however, did not improve, and he suffered much from vomiting. This vomiting came on every day, three or four hours after dinner, when he threw up all the contents of his stomach, nor would he obtain ease till the *whole* had been ejected; he would then remain quite comfortable till another hearty meal, three or four hours after which the same process would be repeated. In this way he went on, constantly throwing up his meals, being tolerably comfortable whilst eating them, and for a short time after, until the process of digestion had commenced, when the pain would begin, and would resist all means of obtaining relief, until by vomiting he had completely emptied his stomach.

A remarkable point in connection with this case was the nature of the matter vomited; it closely resembled yeast in a high state of fermentation; whatever he took, meat, vegetables, bread, the matter vomited had always the same appearance. This very much attracted my attention, for I had seen this kind of vomiting before, in cases of organic disease of the stomach, and the long continuance of pain and other symptoms of deranged stomach function strongly denoted disease of that organ. On examining with litmus the matter vomited it was found intensely acid, and microscopic examination detected in it a number of small particles, to which attention was first directed by Prof. Goodsir of Edinburgh, and to which he has assigned a place in the vegetable kingdom. These particles are little square plates, divided by two or more lines into parallelograms, and these lines again crossed at right angles by others, dividing the surface into little squares, and causing the appearance which a wool-pack would bear from being tightly bound by cords crossing each other at right angles (fig. 2). This appearance suggested for them the name—*Sarcinæ Ventriculi* (from *sarcina*, a bundle or wool-pack). In every instance where the ejected matter

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presented the yeast-like appearance and was acid, we found these *Sarcinæ* present in considerable numbers. There were also several *torulæ*, and numerous starch grains and debris of meat and vegetables.

A careful examination of the physical condition of the epigastric and left hypochondriac regions confirmed my suspicion of the existence of organic disease of the stomach. There were, however, no signs of tumor of any sort, but on making percussion over the region of the stomach there was this peculiarity, that the clear hollow sound which enables you to distinguish the seat of the stomach from that of other viscera, existed over a very considerable extent of surface, involving both the hypochondriac regions, right and left, and extending down to the umbilical. By careful percussion over these regions I was able very distinctly to map out the whole extent of the stomach, and to show that its great curvature reached below the umbilicus, its splenic end as high as the sixth rib, the whole of the left hypochondrium being resonant from before backwards. These signs were constantly present from day to day, with slight variations, according to the time at which he had taken food, and the quantity of food in the stomach.

So far, then, we had sufficient evidence that there was enlargement of the stomach: on no other supposition could we explain the phenomena afforded by percussion. A very enlarged transverse colon would undoubtedly cause a tympanitic state of those regions, but it would be more diffused, especially on the right side, and it would have occupied a greater portion of the umbilical region. And the normal condition of the respiratory organs and of the heart showed that the cause of this tympanitic state was to be sought for below the diaphragm.

Admitting, then, that we had sufficient evidence of enlargement of the stomach, the next point which naturally excited our inquiry was, as to the cause of this enlargement. The stomach, like all parts of the alimentary canal, is very dilatable; it is, indeed, the most dilatable portion of that tube. I shall show you, before I conclude, that it is capable of being dilated to such a size as to occupy the whole abdominal cavity, compressing and displacing the other viscera.

This dilatation takes place from habitual overfeeding, and also from any cause which may interfere with the free passage of the food from the stomach through the pylorus. Large eaters and large drinkers have large stomachs, else they would not find stowage room for all the food they take, and men who live on food which expands freely in the stomach have large stomachs. I have often pointed out this fact to you in the case of the Irish poor who are so often inmates of the hospital. Pat has a larger *stomach* than John Bull, but John Bull has more *belly* than Pat. The difference is this,—Pat lives on potatoes, of which he eats a great many at each meal; these, when mashed by hasty mastication, and mingled in the stomach with liquid, swell out considerably, and occupy a very large space, satisfying the appetite by the stimulus of bulk, and dilating the stomach. John Bull, however, lives on a good substantial fare,—animal food, with a fair admixture of fatty and vegetable matters, to say nothing of his porter; his food is more quickly assimilable, and yields a large amount of fat, which accumulates in his omentum and beneath the integuments, and so enlarges his belly. John Bull does not need *the stimulus of bulk;* his food being of better quality, satiates in smaller quantity, and the stomach does not become unduly dilated.

We could, however, find no such cause for dilated stomach in our patient Rogers. He had not been too well fed, either in quality or quantity. Here enlargement of the stomach must have been due to the chronic existence of some obstruction to the escape of the food from the pylorus; and I think the history of the case sufficiently denotes what the nature of the obstruction was. You remember how he suffered, for years before his admission, from gastric pain, and from other dyspeptic symptoms, so severe that he could only get relief to his sufferings by ejecting the contents of the stomach. The presence of food in the stomach excited such irritation in that organ, that no doubt could be entertained that some portion of the surface of the mucous membrane was in a highly irritable state: in short, that probably an ulcer existed there. It appeared, likewise, that the pain and other dyspeptic symptoms did not follow immediately upon the ingestion of the food,—generally some hours would elapse before the disturbance began; but it was plain that the seat of that disturbance was the stomach, from the position of the pain, the flatulence, the sour eructations, and especially from the fact that the emptying of that organ, by vomiting, was always followed by immediate relief. The part of the stomach affected was probably not the cardiac portion, nor even the middle portion, for then the symptoms would have ensued very soon after taking food; and in the case of disease of the cardiac portion there would probably have been some pain or difficulty in deglutition. Then you will remember the attacks of fainting from which he suffered, both of which were accompanied with and caused by hæmorrhage. One of these was long antecedent to the full development of his dyspeptic symptoms. It is not improbable that at this time a small ulcer existed on the mucous membrane of the stomach, probably on the lesser curvature, from the absence of symptoms. This was the source of hæmorrhage, and it afterwards cicatrized. Subsequently another ulcer formed, which was the source of the second and more severe attack of hæmorrhage. Hæmorrhage is frequently the first indication we have of anything wrong in cases of ulcer of the stomach; but then the blood is most frequently ejected by vomiting. In this case the blood passed away through the bowels, but it was discharged quite black; and this fact renders it in the highest degree probable that it was first poured into the stomach, where it acquired its black colour, and then passed down the intestines. Again, the course which the blood took,—namely, through the bowels, and not upwards—favours the opinion that the seat of the ulcers was near the pylorus, and not near the cardia.

Well, then: assuming that one or more ulcers existed in this man's stomach, what events might we expect from them? Either the ulcer would remain open for a considerable time, giving rise every now and then to attacks of hæmorrhage; or it would proceed to perforation into the cavity of the peritoneum, or to cicatrization.

The chronic continuance of the ulcerated process for any length of time is not probable, as doubtless the attacks of hæmorrhage would have been more frequent; and the man being just now our patient, is proof, almost unequivocal, that perforation did not take place. It is, then, most reasonable to conclude that cicatrization of one or more ulcers has taken place. An essential part of this cicatrizing process is *contraction*. We have abundant opportunities of seeing this in the cicatrices which remain after ulcers on the skin; and in those after ulcers of the large intestine in dysentery, which are often the foundation of a stricture in the intestinal canal, which may give rise to fatal obstruction. In the same way, also, you may have the foundation laid of stricture of the œsophagus, or of the urethra, or of the vagina. Thus cicatrization, though intrinsically a remedial process, may establish a new disease: it may lead to such an obstruction as shall bring in its train all those symptoms I have previously enumerated, and prove ultimately and inevitably, though slowly, fatal. As long as the patient does not take more food than he is capable of digesting and absorbing by the stomach, transmitting the rest through the constricted orifice, there will be no vomiting; but, when he exceeds this limit, the ordinary escape of the food being cut off, the stomach rejects it. And this was the case with our patient: a small light meal would occasion little or no inconvenience; his sickness was not so frequent after his breakfasts and teas as after his dinners; and when he was careful to eat very little at dinner he would escape the sickness altogether, or postpone it to a very late period.

Thus, then, the rationale of this case is, as I believe, as follows:—This man had an ulcer in the pyloric portion of his stomach as long ago as five years before his admission into the hospital; this was the source of his first attack of hæmorrhage. Some time afterwards another ulcer formed in its neighbourhood; the source of the second attack of hæmorrhage. Both these ulcers have cicatrized, and have caused a stricture of the pylorus. As the food can pass through this stricture only in small quantities, it accumulates in the stomach, and that organ has been dilated by these successive accumulations, and it can relieve itself only by forcibly ejecting its contents by vomiting from time to time. So long as the obstruction exists the stomach will continue to dilate, unless the patient acquires the habit of limiting very exactly the *quantity* of his food; and, if he lives long enough, it may acquire an enormous size.

But you will say, may not all these symptoms be due to cancerous disease of the pylorus. Undoubtedly an obstructive cancerous disease of the pylorus might give rise to symptoms like these; but the long duration of the symptoms, and the marked improvement which the patient has experienced during his stay in the hospital, and that the absence of all signs of tumor, are, I think, quite sufficient to justify me in not regarding that disease as the true cause of his sufferings.

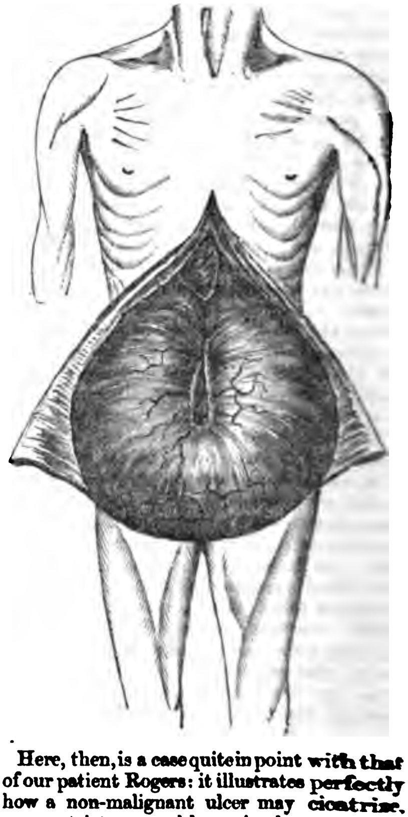
Now, in confirmation of this view of the case, I shall refer you to the drawings on the table, which were taken from a similar case, and which perfectly illustrate the way in which the conditions I have described in Rogers' case may be produced. The drawing represents the abdomen of the patient (a woman) laid open by a crucial incision, and the organ which protrudes is the stomach. As the body lay on the table, you could see absolutely nothing but the enormously enlarged stomach and a small portion of the duodenum just below the left lobe of the liver. The appearance was so remarkable, that I got my friend, Mr. Nunn, now Demonstrator of Anatomy at the Middlesex Hospital, to make a sketch on the spot before we proceeded with the examination. The stomach was so large that it filled nearly the whole abdominal cavity, concealing behind it the intestines and most of the other viscera. Its great curvature measured 3 feet, and its lesser curvature 18 inches; and at the middle of its greater curvature it measured round 15 inches, in the state of distension in which it was at the time of the post-mortem examination.

The history of this case was this:—The patient, Mary Anne Pierce, æt. 45, a married woman, was admitted on the 31st Dec. 1847, with considerable enlargement of the abdomen, and frequent attacks of vomiting. The abdomen was universally tympanitic, and yielded the same character of sound everywhere: it was tympanitic in both hypochondria. She was much emaciated, and the cutaneous veins on the abdomen were large. It was impossible to determine positively whether the tympanitic state was due to a greatly enlarged colon or to a very dilated stomach. The tympanitis being quite low down in the iliac regions, was rather favourable to the former supposition, which was also confirmed by a distinct vermicular writhing, which was very apparent beneath the attenuated abdominal wall.

For fifteen years she had been dyspeptic, and would vomit large quantities at intervals of several days. During the five years which immediately preceded her admission, the attacks of vomiting had increased in frequency, so that, on admission, she vomited after every meal; and at longer intervals she would vomit large quantities of semi-fluid matter resembling porridge, with a yeasty look. While in the hospital she suffered severe pain immediately after eating, and was greatly troubled with excessive flatulence. Her appetite varied in the most capricious manner; sometimes it was most craving, and especially for salt meat, and at other times it would completely desert her. Having remained in the hospital for a fortnight with little variation in her symptoms, but all along suffering great pain after eating, she at length vomited a large quantity of blood, and died in a few hours, from exhaustion.

At the post-mortem examination we found the stomach dilated in the way I mentioned to you, and which is well displayed in the drawing (fig. 1). I do not remember ever to have seen so large a stomach; and, indeed, it could scarcely have been larger. Its vast increase of size was not accompanied with attenuation of its tunics; for its mucous coat was well developed, and its muscular coat was considerably thickened, hypertrophied,—a circumstance which explained the writhing movements perceived during life, and of which the patient herself was conscious. Now in this case the excessive dilatation was due to a contraction of the duodenum half an inch beyond the pylorus; and that contraction was the result of a cicatrised ulcer, which must have dated as far back as fifteen years prior to her entrance into the hospital. A recent ulcer of considerable size, fully one inch in diameter, and with thick elevated margin, existed on the posterior wall of the stomach, near the lesser curvature, and two inches to the right of the cardiac orifice. This was the source of the fatal hæmorrhage.

Fig. 1.



Here, then, is a case quite in point with that of our patient Rogers: it illustrates perfectly how a non-malignant ulcer may cicatrise, cause stricture, and how, in the course of years, the stomach may acquire an enormous size; how, likewise, such dilatation is not incompatible with a certain amount of nutrition and a considerable duration of life; for doubtless, but for the new ulcer, and the consequent hæmorrhage, this patient might have lived for a much longer period.

I have no doubt that Rogers' stomach is much in the same state this woman's was; with less dilatation, because the constriction is of shorter duration, and without any recent ulceration. And if no fresh ulceration develope itself, and he is careful of himself, I see no reason why he may not go on for years enjoying a very tolerable existence.

I have already told you that, when Rogers came in, he was in a scorbutic state, from insufficient nourishment. It was but a small amount of food which he could procure, and that not of the best quality, and that little he could not appropriate, by reason of the disease of his stomach. At first I tried to treat him for this scorbutic state; but the urgency of the gastric symptoms forced me to direct exclusive attention to the stomach. Having tried effervescing medicines and hydrocyanic acid without benefit, I gave him small and frequent doses of creosote and morphia in pills, restricted the quantity of liquids and solids within very narrow limits, and limited his food to milk in small quantities; lean meat, also, in very small portions, with a very little bread. The principle by which I was guided in the adoption of this plan is one which I recommend you to keep in view in the treatment of all diseases of the stomach accompanied by obstruction at or beyond the pylorus: it is this, that you should feed your patient on substances which are capable *of being dissolved in the stomach and absorbed by its walls*, and which do not need the aid of any other portion of the alimentary canal for their digestion. Now milk, and meat, and the gluten of bread admit of being thus digested; and it may be stated, generally, that all azotized or proteinaceous food, if due regard be paid to quantity, need not go beyond the pylorus for its digestion. In the stomach it meets with its proper solvent, and, being once in solution, it may be readily taken up by the blood-vessels of the stomach. But, as I said before, due regard must be paid to the quantity of food given: we must take care not to give more than may be readily dissolved by the amount of gastric fluid which the stomach can easily secrete.

Again, the patient must be charged to limit himself to the proteinaceous foods, and to take liquid in very sparing quantity. If he take starchy and oleaginous foods, which it is now clearly proved are not digested in the stomach, he will accumulate in that organ a quantity of matter upon which it can exercise little or no influence, and which, not finding a ready exit by the pylorus, must excite vomiting; and, if he take too much liquid, he dilutes the solvent fluid of the stomach and impairs its digestive powers, and, moreover, interferes with the absorbing action of the mucous membrane, and, by mechanically burdening the stomach, favours the recurrence of vomiting.

Well, then, Rogers was treated in this way, and he experienced very marked benefit. On his admission, vomiting was almost constant: after he had followed this treatment a little while, the vomiting was greatly controlled, and, ultimately, an interval of eight to ten days would elapse between the attacks of vomiting. He has improved considerably in appearance, and lost all traces of purpura.

Now I must beg your particular attention to the nature of the vomited matters in this case. They were so peculiar, that you cannot fail to recognize them when you meet them. They resembled yeast in a high state of fermentation; and in truth a process of fermentation in them was going on, and a bubbling was distinctly visible, from the generation of gas. They were intensely acid likewise, reddening litmus paper as muriatic or nitric acid would. This was always the nature of the vomited matters, with rare exceptions, and then it would consist of glairy mucus, with some portions of food, and would sometimes be alkaline.

When the yeasty matter was vomited, the little particles of sarcinæ were always present; when the other kind of vomiting took place, and especially if it was alkaline, these particles were not present. My clinical clerk, Mr. Beale, watched these points with great assiduity from day to day, and invariably found it as I have described, the presence of the sarcinæ being clearly associated with the fermenting condition of the vomited matters.

What are these sarcinæ? Prof. Goodsir, who described and named them, places them in the vegetable kingdom, comparing them with certain forms of the genus Gonium, with which the zoologist is familiar. This genus, Prof. Goodsir believes, as I think with justice, contains both animal and vegetable species,—the former characterized by oral appendages and voluntary movements, the latter by their simple cellulo-globular formation. To these latter, or the vegetable species, sarcinæ may be referred.

Are we to look upon these sarcinæ as parasites in the human body? as *causes* of the stomach symptoms under which the patient labours? or as consequences of a certain morbid condition of the stomach?

It appears to me that the weight of evidence would justify our regarding the sarcinæ much in the same light as we do the *Torula fermenti*, or yeast plant—namely, as accompaniments of a certain form of fermentation. Whatever causes would favour the development of this kind of fermentation, would favour the generation of sarcinæ; just as, when you place a quantity of diabetic urine under favourable conditions as regards temperature, it becomes speedily filled with enormous multitudes of Torulæ.

Is there any particular condition of the stomach with which the sarcinæ are associated more than another? This question I will answer by reference to my own experience of cases in which these organisms were ejected from the stomach. I have now seen seven cases of this kind. In five the presence of sarcinæ was ascertained by the microscope; in two I infer its presence from the character of the vomited matters —namely, resembling yeast or wort in a high state of fermentation, and intensely acid to the smell and to litmus, as well as to the taste of the patient.

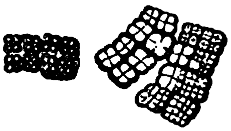
The condition of stomach which was common to all these cases was *dilatation*.

The case of Rogers you are already familiar with. A second case was that of a man named Henry Lyon, who came into the hospital in October 1849. This man's symptoms resembled very much those of Rogers: he had the same periodical paroxysms of vomiting, preceded by pain, and always followed by relief. In this case percussion afforded considerable evidence of dilatation of the stomach. The matters vomited were of the yeast-like character, and contained multitudes of sarcinæ. What the cause of the dilatation was in this case I could not determine so satisfactorily as in Rogers'; but I have little doubt that some obstruction exists at or near the pylorus, consequent upon the cicatrization of some old ulcerative lesion.

Both Rogers and Lyon are still living, and frequently come to the hospital, bringing occasionally some of the yeast-like matter recently vomited. Both are in a very improved state of general health. Their sojourn in the hospital enabled them to learn the proper method of adjusting their diet, both in quantity and quality, to the altered state of their stomachs, and they have had the good sense to follow it. Rogers has been at least eight years suffering from these symptoms, during three of which he has been under our observation; and Lyon has been ailing between four and five years, for eighteen months of which he has been attending here.

A third case was one which occurred to me in private practice, and I am indebted for the opportunity of witnessing it to my distinguished friend Mr. Adams, of Dublin. The patient, a member of the legal profession, æt. 31, consulted me in January 1849. He had been suffering from excessive gastric disturbance for ten years prior to this time, consisting in periodical attacks of vomiting, in which the matters vomited were sometimes, according to his statement, immense in quantity, and generally yeast-like in quality. The paroxysms of vomiting were preceded by intense pain, and followed by immediate relief. The early symptoms were pain after eating, vomiting, hæmatemesis, and melænic stools. I diagnosed an enormously dilated stomach, from pyloric constriction consequent upon old ulceration. This diagnosis was made and noted on the 26th of January, 1850, and it was confirmed by my friend and neighbour Dr. Addison, who gave me the benefit of his assistance in investigating the case. While the patient was in London I had no opportunity of examining the vomited matters; but, some time after his return home, a bottle was sent to me, the contents of which exhibited all the characters I have described, in Roger's and Lyons's cases, and contained sarcinæ in great abundance. Some of these were figured by Dr. Salter in the annexed drawing (fig. 2).

FIG. 2.



Sarcinæ ventriculi (Goodsir).

This gentleman died in November 1850, and I learned from Mr. Adams that the post-mortem examination completely verified the diagnosis. The stomach was enormously enlarged: in a letter with which he favoured me, Mr. Adams described it as four times its natural size; it occupied the right and left hypochondriac and the umbilical regions; its muscular coat was hypertrophied. The cause of the dilatation was a cicatrized ulcer about one inch to the left of the pylorus. This ulcer must have been of such an extent as to encircle the stomach in that region, and the cicatrix formed a thick margin surrounding the contracted orifice through which the food had to pass. The immediate cause of death in this case was rupture of the stomach.

Two cases occurred in the hospital during the winter of 1850-51, under my colleague Dr. Budd, in both of which there were paroxysms of vomiting of the yeast-like matter, with sarcinæ innumerable; and in both there was sufficient evidence to show that dilated stomachs existed.

A sixth case was the woman Pierce, the particulars of which I have already detailed, and in whom the dilatation of the stomach could scarcely have been exceeded. And a seventh case was that of an old man, who lay in Sutherland ward, and in whom the dilatation was due to a cancerous tumor obstructing the pylorus.

In the case related by Prof. Goodsir, and which you will find recorded in the 57th vol. of the ***Ed. Med. and Surg. Journal***, there was, I think, evidence of a dilated state of stomach, although the signs and symptoms are only very imperfectly stated. One symptom referred to in the narrative of the case seems to me to denote a dilatation of the organ,—namely, "that sounds, as of a fluid boiling or bubbling, and proceeding from the region of his stomach, were perceptible to himself and to those around him." The progress of this case resembled that of the case of Rogers and Lyon which occurred in the hospital; the intervals between the paroxysms of vomiting having been considerably increased by limiting the quantity of food, and under the use of creosote.

Any condition of the stomach favourable to the prolonged sojourn of the food in it seems to form one condition at least for the production of sarcinæ. Mr. Busk has related three cases in which he observed these organisms. In two of these there was hernia of the stomach through the diaphragm—a condition which must inevitably interfere with the free action of the organ, and prevent the due transmission of the food in the direction of the pylorus.

Frerichs found sarcinæ in the matters obtained from the stomach of a dog in which he had established a fistula for the purpose of watching the changes of the food during digestion. The perforation of the stomach, by an artificial opening in it, the edges of which were adherent to the abdominal wall, would certainly not accelerate the transmission of the stomach contents to the pylorus. It is right to add that sarcinæ have been found in the stomach and intestines of the bodies of persons who during life evinced no symptoms.

Dr. Brinton lately found sarcinæ in the stomach of a patient who died here of diabetes. This organ is usually of great size in diabetic patients, from the quantity of food which they take, especially of liquids.

The dilatation of the stomach is favourable to the production of sarcinæ only so far as it favours the prolonged sojourn of food in the stomach. The sarcinæ are merely accompaniments of a morbid state of organ which interferes with the free passage of its contents in their natural course. As far as we can see at present, these organisms are as innocuous to the human œconomy as the torulæ. Nor, so far as I know, have any special chemical conditions been observed constantly in connection with the development of the sarcinæ, beyond the generation of a large amount of free acid, which, in Prof. Goodsir's case, consisted of hydrochloric, acetic, and lactic acids—the two latter in considerable quantity. In both Rogers's and Lyons's cases free acid likewise existed in large quantity, which, judging from smell, was probably lactic or acetic, or both. In Lyons's case, indeed, Mr. Hardwick found a large quantity of free acetic acid. Still, I incline to think that some previous chemical change in the nature of the fluid secreted by the stomach is necessary to the development of sarcinæ. I tried an experiment to ascertain whether a prolonged artificial digestion would give rise to the generation of sarcinæ. A large piece of the mucous membrane of the pig's stomach was placed in distilled water acidulated with a little hydrochloric and acetic acid, and meat, bread, cheese, and a large farrago of ordinary articles of food, were digested in it for three weeks, at a temperature of between 95° and 100° Fahr., but without the production of any fermentation, and with that of very complete digestion. There were no sarcinæ, and probably because the digestion was so complete. This experiment was unsuccessful as regards the production of sarcinæ; but perhaps experiments conducted on a similar principle, varying the acid and the nature of the food, and renewing from time to time the mucous membrane, in order to imitate the renewed secretion of pepsine which occurs in the living stomach, might lead to the discovery of the chemical conditions most favourable to the production of the sarcinæ.

I would lay it down, then, as the conclusion most interesting to the practical man,—that he need not make himself very anxious about the existence of sarcinæ in the ejected matters as a feature of his patient's malady; but he should learn from it that, from some cause or other, the food lingers too long in the stomach; and he should take measures accordingly, by feeding his patient with small quantities of food, and restricting his diet as much as possible to that kind of food which it is the special office of the stomach to digest or dissolve—namely, animal food.

As to medicinal remedies, creosote and morphia are those in which I would myself place the most reliance, either separately or conjoined, in order to lessen the irritable state of the stomach, and diminish the frequency of the attacks of vomiting. Alkalies are undoubtedly unfavourable to the generation of sarcinæ, while vegetable, if not mineral, acids probably favour it: but no drug will be found very serviceable without the most stringent rules of diet, as regards both quality and quantity.

Original Communications.

ON THE

ACTION OF POISONS,

AND ON THE

NATURE AND TREATMENT OF ARSENICAL POISONING.

(*A Paper read at the Guy's Hospital Physical Society, March 22nd,* 1851).

By William Odling, F.C.S.

Part II.

Signification of the term antidote—Difficulties opposing the action of chemical antidotes upon arsenic—Physical removal of the poison—General treatment—Exhibition of hydrated oxide of iron—of hydrated magnesia—Innocuous character of the sesqui-arseniates of iron and alumina—Means of converting arsenious acid into these compounds—Examination after the manner of Orfila—Conclusion.

The treatment of arsenical poisoning by means of chemical antidotes is the subject which I propose to consider in this division of the paper.

The term antidote (anything given against, or with the view of counteracting the effects of) is usually restricted to such substances as do not act upon the system, but simply upon the poison, and that in a chemical manner: but this way of considering the subject is obviously too limited. By using the expression, antidotal treatment, with the signification of including all those means which oppose the action of poisons, the subject seems naturally to resolve itself into a consideration of such remedial measures as are directed to the poison, and such as are directed to the system. Now with regard to arsenious acid, since the action of this substance is consequent, if not entirely yet almost so, upon its absorption into the vascular system, it is evident that another natural way of discussing the treatment is to consider separately the means to be applied previously, and those to be applied subsequently to the absorption of the poison; which mode of dividing the subject is obviously not synonymous with the former.

In considering the antidotal treatment of cases of arsenical poisoning, we must bear in mind that powdered arsenious acid is the form in which the poison is most commonly employed, and is the one against the effects of which, our treatment is to be directed. And here arises at once a difficulty with reference to chemical antidotes; for the attractions manifested by solid bodies are for the most part so feeble, that liquefaction, by some means or other, is an almost necessary preliminary before we can direct the affinities so as to produce any required result. And this holds perfectly good with respect to arsenic; for though it would be an easy task to convert a strong concentrated solution of arsenious acid into an insoluble and comparatively innocuous compound, yet, when the substance is in a solid condition, we can only with considerable difficulty act upon it, except by agents whose affinities are too intense to admit of their safe introduction into the system. But since the action of arsenic is for the most part a consequent upon its solution, it is obvious that by administering such substances as form comparatively innocuous compounds with the dissolved portion, we are exercising an undoubtedly beneficial effect, on which, however, in consequence of its partial nature, but little reliance should be placed.

It is evident, therefore, that in the treatment of arsenical poisoning the first great indication to be fulfilled, is the physical removal of the unabsorbed arsenic from the vascular gastro-intestinal surface; all other antidotal means must be looked upon as of minor importance, and as quite secondary to the accomplishment of this chief object. This removal of the arsenic may be effected by vomiting; but there is, as an almost necessary antecedent to vomiting, even when induced by the least nauseating emetics, a considerable degree of vascular depression,—a state highly favourable to the rapid absorption of the arsenic; and, moreover, when the vomiting has ceased, the individual is left in an exhausted syncopal condition, which, aided by the effects resulting from the great excretion of sweat, lessens the pressure of the vascular system, and thereby facilitates the endosmosis of the arsenic.

Altogether, the use of the stomach-pump is be preferred, from the rapidity and completeness of its action, from its inferior depressing influence on the system, and from the control capable of being exerted over it by the operator. Speaking of the stomach-pump, Dr. A. Taylor says, "In a case where nearly an ounce of arsenic had been swallowed, I found the stomach so cleared by the active use of this instrument, that, after death, not the fiftieth part of a grain of the poison could be detected in that organ." "The result clearly proves how perfectly this instrument acts, even with regard to a comparatively insoluble poison like arsenic." Therefore, instead of promoting vomiting by the exhibition of warm diluents, or exciting vomiting by the administration of emetics, it would be preferable at once to make use of the double action stomach-pump, so that, by alternately throwing in and pumping out fluids, the poison might be completely removed from the viscus.

Now, from the comparative insolubility and great specific gravity of the arsenic, the fluid thrown into the stomach ought to be one, that by its viscidity should serve to suspend the poisonous particles, so that, by being enveloped in a thick mucilaginous substance, they might be prevented from coming into direct contact with the tissue, and thus be rendered unable either to act chemically upon the surface or to become absorbed into the structure. But since the ingestion of large quantities of water would favour the solution, and consequently the absorption, of the arsenic, and since a very trifling absorption of the poison is to be dreaded, it would be advisable that the suspending fluid should be one that by acting chemically would prevent any solution of the arsenic taking place, and render insoluble those portions previously dissolved. Moreover, the fluid should be administered warm, to lessen its depressing action upon the system, and to soothe the inflammatory pain. Having, then, repeatedly washed out the stomach with some substance possessing the properties above indicated (an operation very speedily effected) a large dose of castor oil should be given, which substance, on account of its mild, rapid, and efficacious action, appears to be the most suitable agent for clearing the intestines from the poison. Having thus to the best of our capability removed the unabsorbed arsenic from the body, the remainder of our treatment must be conducted upon general principles. Previously to this removal having been effected, it is of great importance that all those conditions which tend to decrease the pressure of the vascular system should be opposed—that is to say, depletion should be avoided, the heart's action should be stimulated, and all those excretions which are not directly instrumental in the elimination of the arsenic be repressed. As the action of arsenic is that of an irritant, the exhibition of opium at some short interval after the administration of the castor oil might be deemed advisable. The propriety or disadvantage of this proceeding, however, is a question on which I am unprepared to adduce any evidence. Opium is generally considered as an alleviator of irritation; and, with respect to arsenic, is looked upon by Jager almost as a specific antidote.

Should the gastro-enteritis be very violent, the ordinary means of counteracting such inflammations must be adopted; but general blood-letting should, if possible, be avoided, for fear of accelerating the absorption of any portions of arsenic which might possibly remain in the digestive canal. With reference to the use of agents which are supposed to favour the elimination of the absorbed arsenic, there is no proof that we have any power of facilitating its removal; and, even had we the power, it is doubtful whether or not any great advantage would accrue from its employment. Our knowledge of the means by which arsenic ultimately becomes expelled from the system is very imperfect. Flandin has shown that but very slight traces are to be detected in the urine.

Having previously recorded my opinion that, in cases of arsenical poisoning, the only plan of treatment on which any reliance can be placed, is that which has for its object the physical removal of the arsenious acid from the body, and having expressed my belief that this plan is best effected by using the double-action stomach-pump, so as to wash out the viscera with fluids which, by their mechanical properties, suspend the poison, and, by their chemical action, prevent any solution of the arsenic taking place, and render insoluble those portions previously dissolved,—I now come to a consideration as to what substance is best adapted for fulfilling these indications. With reference to the hydrated ferric oxide, or sesquioxide of iron, I do not wish to detail the antidotal history of this substance: suffice it to say, that, when first proposed, very exaggerated views of its efficiency were put forward, although it is scarcely adequate to fulfil the simple indications above pointed out. By its physical condition (being administered in the state of a moist magma) it favours the suspension of the poison, but its chemical action on the arsenious acid is very feeble, an extremely large proportion of the substance is required to produce any effect whatever, the compound formed as a result of its action is perfectly soluble in dilute mineral acids, and consequently in the gastric juice, and, moreover, has been proved to be of a poisonous character. With regard to magnesia, either in the calcined or hydrated gelatinous condition, Dr. Taylor, who has investigated its effects, has clearly shown that, by its chemical relations, it is even less fitted to act as a chemical antidote than is the hydrated ferric oxide. Numerous other chemical antidotes have been proposed, but they have not proved of sufficient interest or importance to warrant any further allusion being made to them. And now I wish to direct your attention to a few experiments which were performed with the following objects:—Firstly, I was desirous of discovering some compound containing arsenic, from the chemical relations of which an innocuous character might be deduced,—a condition which subsequent experiment should confirm; and, secondly, to ascertain some means by which powdered arsenious acid in the stomach might be converted into this innocuous compound. After some consideration, I arrived at certain conclusions founded on the well-known chemical analogies between arsenic and phosphoric acids. The sesqui-arseniates of iron and alumina have been but partially examined: they have been found to correspond in their reactions with the corresponding phosphates: they are perfectly soluble in hydrochloric acid, but not at all so in acetic acid, unless it be very concentrated, and then only to an inconsiderable degree; and, as far as my experiments went, the sesqui-arseniate of chrome appeared to act in a similar manner. Therefore, from their chemical relations, I expected that these sesqui-arseniates would prove, if not entirely harmless, at least much less dangerous than ordinary white arsenic, when administered either with an excess of the sesquioxide, upon which the action of the gastric juice might be expended rather than upon the arseniate, or with an alkaline acetate, which, by reacting upon the gastric secretion, would set free acetic acid, in which these sesquiarseniates are insoluble: and I tried the following experiments:—Some sesquiarseniate of iron was prepared by adding to a solution of neutral arseniate of potassa a solution of neutral sesquichloride of iron, until no further precipitation took place, and the liquid contained an excess of iron. The whole was thrown on a filter washed with cold water until the washings came away pure: the precipitate, which was nearly white in colour, was dried at a temperature under 212° F. Of this powder five grains were taken, and mixed with ten grains of recently-precipitated sesquioxide of iron that had been dried in a water-bath, the whole rubbed up with a little water and mucilage, and administered to a full-grown rabbit. The animal was carefully watched for a fortnight, during which time no ill effects were observed. Specimens of the fæces passed during several days succeeding the administration of the arsenic, were examined for that substance by Marsh's test, and in every instance abundant evidence of its presence afforded. In another experiment, some arseniate of ferric oxide was made by adding a solution of arseniate of potassa to a mixture of the solutions of sesquichloride of iron and acetate of ammonia. A brownish white precipitate was produced, which was well washed until nothing further came away. It was then dried in a water bath. Ten grains of this powder were taken and mixed with ten grains of sesquioxide of iron (recently precipitated, washed and dried at 212° F.), and five grains of crystallized acetate of potassa: the whole administered to a dog: no vomiting nor purging, nor any recognisable effect on the dog's health, was produced. The fæces he passed during the several days succeeding the administration of the arsenic were black in colour, normal consistence and odour. Several different specimens were taken and examined Marsh's test. Arsenic was found in the portions tested. The presence iron was also abundantly evident. another experiment sixteen grains the same sesquiarseniate of iron were mixed with four grains of dried hydrated ferric oxide, and four grains of acetate of potassa; the whole made into a bolus, and administered to a dog two hours after a meal: no recognisable effects were produced; the dog did not vomit, was not purged, had no abdominal tenderness. The dose was given at 10 o'clock A.M. During the ensuing night he passed a motion in which the presence of arsenic was proved. The next day's fæces contained arsenic in abundance: in the third day's excrement it was likewise present, but in the fourth day's could not be detected. The animal matter of the fæces was destroyed in the manner recommended by Fresenius and Von Babo, and the clear solutions tested by Marsh's process. In other experiments which I shall presently detail arseniate of alumina was administered to dogs without any poisonous effects following. Therefore I conclude, that if in the stomach we could convert the arsenious acid into one of these sesquiarseniates, we should render it, if not entirely, yet comparatively, innocuous. Now arsenious acid is readily converted by most oxydising agents into arsenic acid, which, in the presence of the above-mentioned bases, forms the insoluble sesquiarseniates. As oxydising agents—manganic, permanganic, ferric, and chromic acids, were employed; also the oxichlorides of calcium and sodium (hypochlorites), and mixtures of hydrochloric acid with chlorate of potassa. Numerous experiments were made, all showing more or less favourably, that arsenious acid could readily, under divers circumstances and temperatures, be converted into arsenic acid. But the substances I at last fixed upon as being most suitable for my purpose, were, the chromate of iron or of alumina, and a mixture of permanganate of potassa solution with hydrate and acetate of ferric oxide, or with hydrate and acetate of alumina; giving the preference, however, to the last-mentioned combination; the effects of which I shall now briefly describe.

The permanganate of potassa I use is the crystallised permanent salt, made after Gregory's process, having the formula—$KO,M_n^2O^7$. The aluminous salt is made by precipitating the hydrated alumina from the chloride, by ammonia, well washing and draining in a filter. The magma left is formed into an emulsion by agitating with a concentrated solution of the aluminous acetate. The aluminous is preferred to the iron compound, in consequence of its gelatinous condition being particularly suitable for suspending the arsenic. When the permanganate of potassa solution is mixed with the aluminous compound, slow decomposition takes place: so that it is better to keep the substances separately, and to mix them when required for use. When a solution of permanganate of potassa, if ever so diluted, is added to an acid neutral, or alkaline solution of arsenious acid, the colour of the permanganate is at once destroyed, and the arsenious becomes converted into arsenic acid. The reaction also takes place, though more slowly, when powdered arsenious acid is employed. When the antidotal mixture is added to solutions containing arsenious acid, the whole of the poison is converted into the insoluble sesqui-arseniate of alumina; and if it be agitated with powdered arsenious acid, the pulverulent molecules become converted externally into the sesqui-arseniate, and any solution of the poison effectually prevented. Every equivalent of permanganate of potassa is capable of converting two equivalents of arsenious into arsenic acid, which, calculated upon the atomic weights, gives us four parts of the permanganate to five of arsenious acid, nearly.

I will now briefly proceed to examine this antidote after the manner indicated by Orfila. According to this chemist, the first property that an antidote should possess is, "that it should be taken in large doses without danger." Now the permanganate of potassa is undoubtedly an irritant, and possibly a corrosive; but, when administered in a dilute condition, no ill effects follow its ingestion. I took a mixture of ten grains of permanganate of potassa, dissolved in a quarter of an ounce of water, mixed it with a fluid ounce of the aluminous emulsion, and made the whole up to two fluid ounces, and then administered it to a dog at ten o'clock one morning. At four P.M. he had a relaxed motion, in which manganese was detected; but neither before nor after the motion did he appear to suffer any inconvenience. Now in administering the antidote by the stomach-pump to a human being, this quantity of the permanganate might easily be mixed with half a pint of the aluminous emulsion, under which circumstances its irritant action would be very trifling—not more than that of an ordinary sulphate of zinc emetic. The second property of an antidote is, "that it should act upon the poison, whether liquid or solid, at a temperature equal to or below that of the human stomach."

I have before explained that this antidote is not administered with the view of acting upon solid arsenic; but its complete action upon liquid, and incomplete action upon solid arsenic, take place readily at temperatures considerably below that of the stomach. The third property is, "that its action should be rapid." The action of the antidote upon solid arsenic is gradual,—upon liquid arsenic (for which alone it is intended), immediate. The fourth property is, "that it should be capable of combining with the poison, although enveloped in mucus, blood, or other substances contained in the stomach." It is probable that the antidote would act in spite of these conditions; but, if administered with the objects above pointed out, its action would be unnecessary, if the poison were so enveloped as to be incapable of solution or absorption. The last property is, "that it should entirely destroy the deleterious properties of the poison." That the result of the action of the antidote upon arsenious acid is a comparatively innocuous compound I think has been proved; but, with the view of still further strengthening this position, I performed the following experiment upon two separate occasions:—I took twenty grains of powdered arsenious acid, mixed it with a portion of the antidote containing ten grains of permanganate of potassa, well agitated and gently warmed the mixture, then threw the whole on a filter. The filtrate was of a bright red colour, not containing a trace of arsenic: the precipitate was mixed with milk, and administered to a dog. In the first instance no ill effects were observed after a lapse of five hours from its exhibition. During the night the dog vomited. The matters ejected and his fæces were accidentally thrown away, and consequently not examined. During the ensuing day the dog appeared lively and well, nor did he afterwards manifest any uneasiness. In the second instance the precipitate was mixed with milk, and exhibited to a dog three hours after a meal: he was carefully watched. Four hours after its administration he vomited, and again in about an hour after that. The matters vomited contained arsenic. Neither before nor after the vomiting did he appear uneasy; he was playful, active, and ate everything set before him: the fæces he passed the next day contained arsenic. These experiments were not so conclusive as they were intended to have been, owing to the occurrence of vomiting, so readily excited in dogs; but they must be looked upon favourably as far as they go: the dog's recovering in both instances is something more than a coincidence.

In conclusion, then, it is evident that the external conversion of the pulverulent molecules of arsenious acid into the sesqui-arseniates of iron, alumina, or chrome respectively, and the precipitation of arsenical solutions in the form of these compounds, affords a rational expectation of affecting as much benefit as can possibly accrue from the use of chemical antidotes, and that this conversion can be produced by a mixture of the permanganate of potassa with the acetate and hydrate of alumina, or with the acetate and hydrate of ferric oxide, though doubtless more appropriate means of effecting this action are to be discovered: the action of the chromates of alumina and ferric oxide being particularly worthy of consideration.

And finally, that this antidote, though not by any means to be relied upon as a specific for arsenical poisoning, appears to act more efficaciously than any other which has hitherto been proposed. The subject is not brought forward so much with the view of enforcing the advantages of these antidotes, as of directing attention to a further investigation of the matter.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 24th April, 1851:—Edmund Thomas Higgins, Gloucester—John Burchall Penen, South Petherton—Sydney Alder, Wakefield, Yorkshire—John Williams, Cardiff—John Page Burke, Royal Navy—George Forster Burder, Clifton, Gloucestershire—Cornelius Clark Rutherford, Doncaster—David Thomas Morris, Camarthen—James Spark, Newcastle under Lyne.

CASE OF

SUSPECTED DISEASE OF THE KIDNEY.

By C. H. Jones, M.B. Cantab., F.R.S.

Mrs. B., æt. 77, pallid, thin, used formerly to have fits of an epileptiform character in the night, but they have ceased for the last eleven years. During this time she has been subject to attacks of illness lasting several days, and recurring latterly every three weeks or fortnight, though at first they were not more frequent than once in three months. In these attacks she suffers severe frequently recurring pains, of a sudden and sharp kind, situated in the region of the kidneys, not generally affecting both sides, but either one or the other. The pain (which now is on the right side) obliges her to stoop forward when it comes on; it is relieved by pressure, does not extend down the leg or thigh, or in the course of the ureter.

At the time of these attacks the urine is very scanty, almost suppressed; she has been two or three days without passing any: a small quantity passed to-day is pale, highly acid, not albuminous, contains some faint casts and scales of epithelium. Bowels usually costive; at present, and at these periods generally, much relaxed. Nausea and vomiting also occur. Has ordinarily little appetite, and digests her food badly. Skin cool. Pulse quiet, weak. Tongue pale, coated in centre.

About three years ago she had an attack of hemiplegia, affecting the right side, from which the hand has not yet recovered, the movements and sensibility remaining impaired. Never had anasarca or dropsy; no gravel or blood ever noticed in urine.

March 13th.—℞ Cal. gr. iv.; Ipecac. gr. j.; Opii, gr. j.; Camph. gr. iij.; Ft. pil. h. n.

℞ Olei Terebinth., Olei Ricini, aa. ʒij.; Tr. Opii, ♏v. ex. Aq. M. Pip. cras mane.

℞ Linim. Camph. Co., Linim. Terebinth., Linim. Opii, aa. ℥j.—Iufricetur diligenter part. dolenti.

14th.—Pain much relieved; slept much better than on the previous night; has still sickness after any ingesta.—℞ Haust. Acid., H. Cy. c. Sodâ quotid. in die; Pt. in usu Linimenti. Rept. pil.

17th.—Sickness has been entirely checked by the hydrocyanic acid. Has passed some water this morning, for the first time since the 13th; its appearance is the same as then.—℞ Liq. Potass. ♏xx.; Sp. Æth. Nit. ʒss.; Sp. Junip. Co. ʒss. ex aquâ ter die.

20th.—Is now almost well, but weak. Tongue moist, nearly clean. Urine pale, in moderate quantity, sp. gr. 1007. —℞ Liq. Potass. ♏xx.; Tr. Cinchon. ʒj.; Sp. Junip. Co. ʒj. ter die ex aquâ.

April 7th.—Is greatly better than she has been for a long time; passes much more water than she used to do. Has not taken her medicine at all regularly.

10th.—Is quite free from pain; seems well.

Remarks.—The points to be noticed in this case are the following:—The occurrence of severe attacks of pain, usually affecting the region of one or other kidney, sometimes extending to both; the absence of albumen, blood, gravel, or any sediment in the urine; the simultaneous disorder of the bowels and stomach; the cessation of former epileptiform fits, and the occurrence, comparatively recently, of an hemiplegic seizure; the long continuance and increasing frequency of the present attacks; the absence of any indication of gouty or rheumatic diathesis, and of any appearance of dropsy.

It is difficult to pronounce with any degree of certainty what is the exact nature of this case; but I am inclined to believe that the first step in the procession of morbid actions is a suspension or derangement of the organic nervous influence which regulates the secreting process in the kidneys: this I suppose to be primary, and to depend upon some peculiar idiosyncrasy. The epileptiform fits which occurred in her earlier life were probably another form or mode of manifestation of the same tendency to diseased action of the nervous system; and the hemiplegic attack at a later period may have resulted from an aggravated but similar condition. These two last symptoms might be accounted for on the supposition that there exists organic disease of the kidney (morbus Brightii); but this, I think, is rendered unlikely by the present state of the urine, by what is stated of its usual condition, by the paroxysmal nature of the attacks, by the absence of the peculiar cachexia, and of any indication of dropsy. The severe pain in the region of the kidneys does not seem to me capable of being accounted for by the presence of a calculus or any diseased condition of the organs; otherwise it would not shift its seat, and would be more dull and permanent, while there would probably have been observed, at some time, blood or gravel in the urine. If the pain were of the nature of lumbago, it would not have so much of the paroxysmal character; some rheumatic symptoms would probably coexist, and the urine, though it might be scanty, would not be almost suppressed, and would present more deviations from its natural state, in the shape of sediments, &c. The great diminution in the quantity of urine passed, which (but that a small amount probably collected in the bladder) one would be justified in considering completely suppressed, is an interesting circumstance, and seems only to be accounted for by supposing that the function of the renal organ is suspended in the way I have stated. The disturbance of the stomach at the same time is clearly sympathetic; and the supervention of diarrhœa is to be regarded as a vicarious evacuation, preventing the dangerous effects which might be produced by the retention of urea, and the other constituents of the urinary secretion, in the blood. The result of the treatment seems to be favourable to the view I have taken; the object proposed being to stimulate the kidneys gently, at the same time allaying any irritation that might exist in them or their nerves, by moderate counter-irritation and sedative applications. The pain I consider as neuralgic—*i. e.*, not depending on inflammation, or any visible organic change in the nerves. The primary seat of the morbid action I should suppose to be the renal plexus, and the posterior branches of the spinal nerves the situation to which the pain was communicated by reflex sympathy. The low sp. gr. of the urine probably depended on its containing but a small proportion of solid constituents.

PATHOLOGICAL STUDIES ON THE BODIES OF THE DROWNED.

By Francis Ogston, M.D.
Aberdeen.

Under this head it is proposed to lay before the profession the results of upwards of twenty years' attention to the appearances presented by the bodies of the drowned. The particulars which follow were gathered under unusually favourable circumstances for such observations; the cases having all, with one exception, happened in police or medico-legal practice.* Having been committed to writing on the spot, or immediately afterwards, their general accuracy may be relied on; while the deductions to be drawn from them, having been formed without reference to preconceived theory or favourite hypothesis, will, it is hoped, be received as fair and legitimate. Of their practical value it is for others to judge.

The present paper will be devoted to the notice of some preliminary points which have only an indirect bearing on the subject of death by drowning, though believed to be essential to the consideration of the particulars with which it is intended to follow it up.

1. *Number of cases.*—The number of bodies which were examined amounted, in all, to 90. Of these, complete post-mortem inspections were made in 53 instances.

2. *Number of observations.* — The number of *observations* in regard to the state of the body, as gathered from the view of its exterior, will be found to exceed the number of the subjects examined. This has arisen from the circumstance that several of the bodies were seen at different periods after their removal from the water. Thus, although 66 were only examined once, 23 were seen at two, and 1 at three separate periods; making, in all, 115 *observations.*

3. *Numbers of each sex.*—Of the 90 individuals drowned, 70 were males, and 20 females; being 77·7 of the former, and 22·2 per cent. of the latter

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* It may be right to state that 18 of the cases, and 7 of the post-mortem inspections, have been previously made use of in a paper in the 47th volume of the Edinburgh Medical and Surgical Journal, "On the Morbid Appearances in Death by Drowning." For obvious reasons, however, it has been thought best not to exclude these cases from the present series of papers.

4. *Ages of the individuals.*—The exact age of the greater number of the parties was known. Of the remainder, approximations only could be obtained. As thus ascertained, the ages of the whole averaged 45·5 years, the average age of the females exceeding that of the males by 7·5 years. As will be seen by the subjoined table, the greatest number of cases occurred betwixt the 25th and 35th years:—

TABLE I.

Age.	Males.	Females.	Total.
Under 5	2	0	2
5 to 10	1	0	1
15 „ 20	1	0	1
20 „ 25	3	3	6
25 „ 30	13	4	17
30 „ 35	14	1	15
35 „ 40	5	1	6
40 „ 45	7	3	10
45 „ 50	8	3	11
50 „ 55	3	0	3
55 „ 60	9	5	14
60 „ 65	4	0	4
Total . . .	70	20	90

5. *Attendant circumstances.*—It was known that the drowning was suicidal in 23 per cent. of the cases, or in 13 of the males, and 8 of the females. It was also ascertained, with tolerable certainty, that, in 45 per cent. of the cases, or in 34 of the males and 7 of the females, the drowning had been accidental. The death of one (a male infant) was believed to have been homicidal. Of the circumstances in this respect of the remaining 27, or 22 males and 5 females, nothing certain was known.

It was likewise learned that 41 per cent. of the individuals, or 28 of the males and 9 of the females, were in drink; and 18·8 per cent. of them, or 14 males and 3 females, were sober at the time of their deaths. Besides being intoxicated, one person (a female) was blind, 1 (a male) was in an apoplectic state at the moment, and 1 (a male) was deaf and dumb. Of the remaining 36 individuals, 1 (a male) perished during an epileptic fit, 1 (a male) was labouring under delirium tremens at the time, and 3 (2 females and 1 male) were insane (2 maniacal and 1 imbecile); leaving 31, or 25 males and 6 females, of whose state, as to sobriety or otherwise, nothing further was accurately ascertained, although some of them were known to be of intemperate habits.

6. *Where found.*—The localities in which the bodies were found, and where they had perished, were as under—viz.:—

In the Aberdeen Harbour	46
„ Aberdeenshire Canal	25
„ River Dee	9
„ River Don	4
At the sea-beach	3
In "the Loch" (a mill-stream) . . .	2
In a pool of fetid water	1
Total	90

The first of these localities, though now to a considerable extent converted into a wet dock, was, at the time of all but one of the drownings, a tidal harbour, varying in depth according to the states of the tides. The canal is of the usual construction, and has at its middle a depth of four feet. Both the rivers have a gravelly bottom, and portions of their banks are rocky.

The case of the person who perished in the pool of water is interesting, as showing how easily life may be occasionally lost. He was in the act of leaving a privy, when he was seized with an epileptic fit, and fell with his face in a piece of dirty water, which did not exceed a foot and a half in breadth, with a depth of from three to four inches. When discovered, after death, only his mouth and nostrils and one cheek were found to have been under water.

7. *Season of the year.*—The seasons of the year at which the bodies were discovered in the water were as under—viz., in January, 12; February, 6; March, 3; April, 11; May, 7; June, 5; July, 5; August, 10; September, 3; October, 10; November, 8; December, 10: or, in the winter quarter, 30 cases; spring, 20; summer, 17; autumn, 23.

8. *Time the bodies had remained in the water.*—This point was pretty accurately ascertained in 79 of the cases, and ranged in these betwixt four or five minutes and 56 days.

9. *Period after removal from the water at which the observations were made.*—Except in two of the cases, in which the bodies had been thrown on land, where they had lain for periods of time which were uncertain, the state of the others was noted at intervals after their removal from the water ranging between ten minutes and three days: 65 of the bodies were seen within the first, and 73 of them within the two first hours after their discovery in water.

10. *Injuries on some of the bodies.*—Marks of violence were found on 36 of the bodies, or 40 per cent. of the whole, consisting of wounds, contusions, abrasions, fractures, and dislocations.

Of *wounds*, exclusive of those attending a compound fracture, 19 in all were discovered in the bodies of 10 of the individuals. There was no marked degree of retraction of the edges of any of these wounds. In 17 of them no distinct clot of blood existed in their vicinity; while in the remaining two cases, where clots were found, they had very little consistency. Hence, from this sort of evidence, it was presumable that the wounds had been produced after death.

The seats of these injuries were the eyelids in 2 instances, the inside of the lip in 1, the right ear in 1, the right eye in 1, the left temple in 1, the vertex in 1, the occiput in 1, the forehead in 5, the nose in 2, the groin and belly (with escape of the intestines) in 1, the diaphragm in 1, the perineum in 1, and the right ankle in 1. These wounds were all either lacerated or contused ones.

The wound (a laceration) in the perineum occurred in a female suicide, who had thrown herself off a bridge which afforded her a fall of about 12 feet.

Of *abrasions* of the integuments, there were encountered in all 45 separate instances, in 23 of the individuals. The abrasions were in every case of a slight kind, extending little deeper than the cuticle. In two other cases parts of the surface presented the dry, parchment-like appearance, which results from continued pressure either at or before death.

The seats of the abrasions were as follows:—viz., the eyelids (upper 2, lower 2) in 4 instances; the forehead in 3; the nose (front in 4, left side in 4), 8; the face, 7; the temples (left 3, both 1), 5; the upper lip, 1; the left shoulder, 1; the elbows (right 1, left 1, both 1), 4; the left forearm, 1; the knuckles and fingers (left hand), 1; the back of the right hand, 1; the forefinger, 1; the knees (both), 2; the shins (right 2, left 1), 3; the right leg, 1; and the heels (both), 2.

Contusions to the number of 39 were met with in 15 of the bodies. In none of these was there any sensible elevation of the bruised part. In 34 of the contusions the blood effused was liquid, and gave rise only to a mere dyeing of the subcutaneous areolar tissue. In the remaining 5 bruises the clots were soft. Hence the indication was in all that these injuries had been inflicted at or after death.

The seats of the various contusions were as under:—viz., the forehead in 3 cases; right parietal protuberance, 1; left temple, 1; left ear, 1; left eyebrow, 1; nose, 1; left clavicular region, 1; left shoulder, 3; right elbow, 1; forearms (right 3, left 3), 6; left arm, 1; back of left hand, 1; knuckles of right hand, 1; left hip, 1; right nates, 1; right thigh, 1; knees (left 3, right 1), 4; shins (right 1, left 4), 5; left leg (sides) 2; insteps (right 2, left 1), 3.

No fewer than 29 separate *fractures* were encountered in three of the bodies, one of them a compound one. These occurred in the right forearm once, the right zygoma once, the sternum once, the legs three times (the right twice, one a compound fracture, the left once), the right thigh once, and the second to the twelfth ribs one each side inclusive, making 22 ribs fractured.

No clot, or even effused blood to any extent, was found in the vicinity of these fractures; thus rendering it so far likely that they had been produced after death.

A *dislocation* of the sternal end of the clavicle in one instance was the only example of this form of injury met with.

Of the various injuries just enumerated, the bodies of the males had suffered more than those of the females, having been in the proportion of 25 of the former to 11 of the latter. Taking, however, the relative numbers of each sex, the proportions are reversed; 55 per cent. of the female bodies having suffered injury, and only 35·7 per cent of the bodies of the males.

Two of the cases may be selected a illustrative of the injuries which ma be sustained by the body in water aft death, in such a situation as a floatin harbour. One of these was the case a male suicide who had thrown hims into the Aberdeen Harbour. The bod was not discovered till 32 days aft On examination, it was found to hav suffered fractures of the right thigh an right leg, a compound fracture of th left leg, an oblique fracture of the upp part of the sternum, and fractures all the ribs, except the first, at poin varying from two to six inches fr their sternal extremities. The oth case was that of a night policeman, who, during a stormy night, had been blown off the quay into the harbour. Three days elapsed before his body was discovered. On examination, a contusion was found on the forehead; the right eye was severely injured; the right clavicle was dislocated at its sternal end; through a wound in the side of the belly, extending to the groin, the whole of the moveable intestines had protruded, and a portion of the liver was partly forced through a large rent in the diaphragm.

11. *Morbid appearances.*—More or less distinct traces of ordinary disease were found in the body in 42 (or 46·6 per cent.) of the cases; though in none of these had there been disease sufficient to account for death, or even decidedly to facilitate the death by drowning. Twenty-eight of those in whom such morbid appearances were encountered were known to have been of intemperate habits, and 6 others were also suspected to have been so.

The abnormal appearances within *the head* were thickening of the arachnoid membrane in 8 cases, effusion of serum into the arachnoid in 7 (the two coincident in 6 of these); unusual firmness of the brain in 8 cases (3 of them suicides); adhesion of the opposed surfaces of the cerebral hemispheres in 1 case; hypertrophy of the conarium in 1 case; vesicular state of the choroid plexuses in 8 cases; and a chalky concretion in one of the choroid plexuses in 1 case. The skull was unusually thick in 6 cases (4 of them suicides), and remarkably thin in other two cases (one of them a suicide).

The abnormal appearances within *the chest* were moderate general hypertrophy of the heart in 5 cases, hypertrophy of the left heart in 2 cases, attenuation of the right heart in 5 cases, thickening and patency of the mitral valve in 1 case, vegetations at the mitral valve in 1 case, adhesion of the pericardium to the heart in 2 cases (one of them almost general, both of them old), emphysema of the upper lobes of the lungs in 12 cases, old adhesions of the lungs to the chest (partial) in 9 cases, a tubercle in each lung in 1 case, and a chalky concretion in the left lung in 1 case; the liver simply hypertrophied in 11 cases, cirrhosed in 6, and granular in 4; stomach unusually small in 7 cases, smaller intestines contracted in 1 case, contractions of the colon (1 its whole course, the other its lower part) and rectum in 2 cases, spleen hepatised in 10 cases; kidneys hypertrophied in 11 cases, granular in 1, the cortical part shrunk in 1, in 4 of these instances coincidently with albuminous urine; serous cysts in 2 cases in the ovaries, and the same parts cartilaginous in 1 case.

Two of the subjects had inguinal herniæ, 1 chronic ulcers of the legs, and 1 morbus coxarius.

12. *Pseudo-morbid appearances.*—Two classes of pseudo-morbid appearance are encountered in the drowned when some time has elapsed before their bodies are recovered—those dependent on the progress of decomposition, and those originating in the influence exerted on them by the water.

Belonging to the first, we have various changes of colour, both of the surface and the parts in the interior of the body, softening of the tissues, serous infiltrations, and the evolution of gases.

The discolourations frequently noticed on the surface of the body after some stay in water, and which originate in the putrefactive process, admit of being readily distinguished from those which occur at an earlier period, from the coexistence, in the case of the former, of other indications of decomposition simultaneously with these. The discolouration of putrefaction assumes different hues, such as various shades of red (from a bright cherry to a blackish red), blue, green, and brown. All of these are caused by the escape of the blood in a liquid state from the veins into the subcutaneous areolar tissue, and the subsequent chemical changes the fluid undergoes in that situation.

In 6 bodies (or in 6·6 per cent. of the whole) in which *the red discolouration of putrefaction* was present, its seat was the face in 5, the lower and fore part of the neck in 1, the front of the chest in 2, the dependent parts of the trunk in 1, the sides of the belly in 1, the thighs in 3, the legs in 3, the arms in 2, the forearms in 2, and the penis in 1. In 5 of these, in which the stay in water was ascertained, it had varied from 24 to 50 days, averaging 30·5 days; 3 of the 6 cases occurred in the winter, and the remaining 3 in the spring months.

The *green discolouration* was met with in 15 bodies, or in 16·6 per cent. of the whole. In 6 of these the discolouration was general, with the exception of the hands and feet in 4, the hands and face in 1, and the hands, feet, and belly, in 1. In the remaining 9 instances its seat was the front and sides of the belly in all, the face also in all; the front of the chest in 7, the front of the neck in 6, the fronts and sides of the thighs in 4, the groins in 4, the fronts of the shoulders in 3, the back in 2, the front of the legs in 2, the armpits in 2, the penis in 1, the forearms in 1, the arms in 1, and the female mammæ in 1.

In 6 of the bodies the belly was green, and the front of the chest natural, while the reverse was only noticeable in 1 instance. This fact is deserving of attention, as it overturns a ground of diagnosis set up by Devergie between bodies which have decomposed in water and those which have decomposed out of this medium.

The average stay of the bodies in water where the green discolouration was present, in 13 of the cases in which this was ascertained, was 28·15 days, with a range between 6 and 56 days; or, excluding 1 case in August and 1 in May, the average stay in water (in the spring and winter months) was 32·09 days, with a range between 20 and 56 days.

The ***blue discolouration of putridity***, which seems almost immediately on its appearance to pass into the green, was only noticed in 1 case, which had been 7 days in water in the month of August, and in 1 where it was combined with green patches in the face.

The ***brown discolouration of putridity*** appears to be only a modification of the darker shades of the red discolouration, the latter passing into the former by gradations not very readily to be discriminated on the superficial parts.

In the ***interior*** of the bodies of the drowned the same series of pseudo-morbid discolourations may be witnessed as in their exterior; they are found to affect the serous and mucous surfaces, with or without their extending to the walls of the tubes they invest, and to the parenchyma of the viscera. A more complete development of the process of decomposition would seem to be required, however, for their production, than for those which appear on the exterior of the body, the average period of their occurrence in the bodies examined, where the stay in water was known, having been 31 days with a range between 17 and 56 days, or excluding the cases which occurred in the six summer months, 38 days, with a range between 21 and 56 days.

In the internal parts affected with the ***red*** pseudo-morbid discolourations, the order of its frequency was as follows:—viz., the serous surfaces more or less extensively in 10 cases, the mucous surfaces more or less generally in 9 cases, the whole of the coats of the intestinal tube in 11 cases, the muscles generally in 4 cases, the brain throughout in 3 cases, the heart in 4 cases (in one of these limited to its right side), the coats of the arteries in 1 case, the substance of the liver in 1 case, of the lungs in 1 case, and of the kidneys in 3 cases, and the structure of the spinal cord in 1 case.

The ***brown*** pseudo-morbid discolouration was only noticed internally in 5, and the ***green*** in the same number of the bodies. The period of the stay in the water in the instances in which this was ascertained, averaged 41·75, with a range between 26 and 56 days in the case of the former, and 36, with a range between 21 and 56 days, in the case of the latter. All of the cases belonged to the six winter months. The seats of the brown discolouration were the brain twice, the liver twice, the spleen twice, and the kidneys once. The seat of the green discolouration was the brain in 3 instances, the lungs in 2, and the liver and spleen in 1.

In 1 case, which had been 24 days in water, in the month of December, the brain was generally of a deep ash-grey.

Pseudo-morbid softening, consequent on the advance of putrefaction, was met in 14 of the bodies. In 10 of these the stay in water had varied from 7 to 56, averaging for each 29·9 days; or excluding 2 of them which belonged to the six summer months, from 17 to 56, averaging 29·5 days. The seats of the softening in the whole were the subcutaneous cellular tissue more or less extensively in 3, the voluntary muscles generally in 4, the soft parts of the face in 3, the encephalon in 9, the lungs in 4 (in 1 collapsed), the liver in 3, the spleen in 2, the heart in 3, the kidneys in 1, tissues over the neck and shoulders in 1, the stomach in 1, and the spinal cord 1.

Pseudo-morbid infiltrations, the consequences of putrefaction, and of various degrees of consistency, from that of a thin reddish serum to a thick reddish pulp and a gelatinous-looking red tremu lous matter, were present in 15 of the bodies. Except in 3 of these, it was met with simultaneously in the subcutaneous cellular tissue, and in the cavities of the bodies. In the former situation its seat was the whole head in 1 case, the chest in 9 (in 1 gelatinous), the neck (including in 1 the muscles) in 5, the scalp in 5 (in 2 gelatinous), the face in 1, and the groins in 1. In the cavities of the body, the seat of the effusion was the chest in 10, the belly in 6, the pericardium in 8, the mouth and throat in 4, the larynx, trachea, and bronchi in 2, the stomach in 2, the orbits in 2, and the nostrils in 1.

Ten of these bodies were known to have been in water from 3 to 56 days, or on an average 28·3 days each, 7 of them in the six winter months, from 21 to 50 days, or on an average 31 days.

Gaseous distension, or what may be termed pseudo-morbid emphysema, was encountered in 17 cases, in 14 of which the stay in water had averaged 27·78, with a range of betwixt 7 and 56 days, or in 11 of these in the six winter months 27, with a range between 17 and 50 days. In four of these cases, in which from their abundance they were tried, the gases were found to be inflammable.

The seats of the gaseous distensions were in 9 cases the head, in as many (not all in the same subjects) the face, in 10 the walls of the chest, in 10 the subcutaneous cellular tissue of the neck, in 10 the abdominal walls and cavity, in 6 the upper parts of the extremities, in 4 the scrotum, in 1 the penis, in 5 the lungs, in 5 the arteries generally, in 1 the heart, and in 1 the bladder,

The *cuticle* was more or less extensively *detached* in 14 of the cases which had been in water on an average 29, with a range between 7 and 56 days for all the seasons, or 28·38, with a range between 10 and 50 days, for the six winter months.

In one of these cases the cuticle came away from the hands entire, like a glove. In 2 of them there were vesications on the chest and belly filled with a purplish fluid.

The remaining pseudo-morbid appearances (if they may be so termed,) observable in the bodies were those attributable to the action of the water in which they had lain. These were erosions of the soft parts, saponification of these, and blanching of the surface and portions of the denuded bones.

Erosions.—It is known that these occur most readily in water in those soft textures the continuity of which have been previously interfered with, as from wounds, contusions, &c., although there is no reason to limit their origin to such assisting cases alone.

In 7 of the bodies examined, erosions were observed, *i. e.*, in 7·7 per cent. of the whole. In 6 of these, whose stay in water was known, it has averaged 35·8, and ranged betwixt 29 and 56 days. All of these cases belonged to the six winter months, with one exception withdrawn from the water on the 2nd of June, and which had been the longest (56 days) exposed to its action.

The seats of the erosions were as follows, viz.:—the scalp generally in 5, the nose (involving the cartilage in 1) in 3, the ears involving the cartilages in 1, the left side of the neck in 1, the left shoulder extensively in 1, the chest at various parts before and behind in 1, the arms in 2 (1 partially, the other extensively), the soft parts of the hands in 1, the soft parts of the fingers in 1, the thighs partially in 1, the left leg in 1, and the left instep in 1.

Saponification was noticed in 11 of the cases, or in 12·2 per cent. of the whole. In ten of these the stay in water averaged 31, and had varied from 17 to 56 days. With 1 exception, examined in the beginning of June, the others had all been in water during the six winter months. The saponification in one of the cases was limited to the vicinity of various wounds of the face and trunk. In the remaining 10, its seat was the abdominal parietes in 8, the walls of the chest in 8, the soft parts of the trunk generally in 1, of the extremities generally in 2, of the arms alone in 1, of the thighs alone in 1, the omentum in 4, the fat around the heart in 1, and that in the anterior mediastinum in 2. On the chest and extremities the saponification of the cellular tissue was complete, that of the muscles only partial: none of the viscera were affected.

The *blanching* of the surface of the body from its stay in water will be noticed afterwards. In 2 of the cases in which the cranial bones had been denuded by the erosions of the scalp, these were blanched; one had been a month and the other 56 days in water. In the latter, the connection of the cranial bones, as far as exposed, had been severed.

[To be continued.]

MEDICAL GAZETTE.

FRIDAY, MAY 2, 1851.

It is about a year since we last adverted to the degrading position in which Naval Assistant-surgeons were placed by the neglect of the Admiralty. A resolution of the House of Commons was carried last session, in spite of opposition on the part of Government, to the effect that proper accommodation should be provided for them on board of Her Majesty's ships. The first Lord of the Admiralty remarked that "the wish of the House was one thing, but the practicability of the proposal was another." In fact, so much disinclination was manifested by the Admiralty to carry out the resolution, that, as we predicted, the vote of the House has been either wholly disregarded or evaded on the old pretence that there was no room. The following paragraph has recently appeared on the subject:—

"The partial and insufficient execution, by commanding officers, of the Admiralty order issued in consequence of a resolution of the House of Commons, to the effect that 'the accommodation provided for the assistant-surgeons on board Her Majesty's ships is inadequate for securing the full benefit of their professional services,' is about to be brought under the notice of Parliament. The wording of that part of the order regarding the accommodation, unfortunately left it in the power of the commanding officer to evade its main object. Under such circumstances it was hardly reasonable to expect a liberal, or even a just interpretation of the order from men who had systematically opposed the claims of the assistant-surgeon. The result has been just what might have been expected. The assistant-surgeons are but too frequently told that there is no room for cabin accommodation for them; and, in many cases where the cabins are granted, they are told that they must give them up in the event of a supernumerary lieutenant joining the ship, and this in direct variance with Her Majesty's printed instructions, which provide that no officer borne on the strength of a ship shall be displaced from his allotted accommodation by any supernumerary. To this unwise and ungenerous system of opposition there are, however, some highly honourable exceptions. In a frigate of 50 guns, with an admiral and all his retinue on board, space is found for cabins for both assistant-surgeons, a fact which fully realises what Mr. Hume said when want of space was urged against granting cabins to those officers, —'where there's a will there's a way.' With this case before us, when we are told that assistant-surgeons of ships of the line, not flag ships, are refused cabins on the plea of 'no room,' we can easily understand how far the sympathies of commanding officers with assistant-surgeons extend. Nothing short of a peremptory order to provide cabin accommodation for assistant-surgeons, from the moment they enter the naval service, can ever stay the present discontent, or meet the requirements of the public service."

We trust that Captain Boldero, who is the advocate of the claims of our profession on this occasion, will again bring the subject before the House of Commons, and that the resolution will be this time so expressed, that there may be henceforth no misunderstanding or evasion on the part of those whose duty it is to obey the orders of the House.

Medical men have no just ground of complaint that they cannot provide for their wives and children who may survive them. Setting aside the benefits of life insurance, which are common to all, there are societies especially constituted to meet the wants of the profession. Life insurance in good and long tried offices is costly; and if the insurance be only for one or two thousand pounds, the annual premium may be a serious deduction from the profits of practice: nevertheless, we have great confidence in this mode of laying up a provision for the future.

One of the oldest Societies, of the benefits conferred by which we have frequently had occasion to speak in terms of approbation, is the *Society for the Relief of the Widows and Orphans of Medical Men.* It is a mixed Benevolent and Provident Society: it grants donations to the destitute and deserving members of the profession, or it enables them, by an annual payment, to lay by a provision for their wives and children. This Society has been in operation about fifty-eight years; and up to April 1850, it had distributed in half-yearly grants nearly forty thousand pounds. In 1849-50, the sum of £1,408 was paid to thirty-seven widows, and sixteen children. Members of this Society must be qualified professional men, residing in the County of Middlesex, or within *seven miles* of the General Post Office. A ballot is taken for their admission, and the payment is two guineas per annum, or a life composition according to the age of the applicant.[*]

We have now before us the Prospectus of a younger Institution under the name of the *British Medical Fund,* which is also divided into a Provident and a Relief branch. The main object of this Society is to supply to *all* qualified members of the medical profession, in the United Kingdom, the benefits which by the Metropolitan Society are restricted to those who practise in and around London. We learn from the Prospectus that—

> THE BRITISH MEDICAL FUND has been established on a wider basis, with the twofold object of exciting and promoting providence among the members of the medical Profession, by facilitating the means for procuring Endowments, small Insurances, and allowance during sickness; and also of raising a benevolent fund, to be placed under the control of the Directors of the Society. The Directors are anxious to bring this benevolent fund into operation as extensively and speedily as possible. And with this view, they desire to make its existence known beyond the circle of the profession, in the confident belief that many benevolent persons in all classes of society will gladly aid them in an object which they feel convinced must commend itself to all whom Providence has blessed with the means of assisting others, and especially to those whose hearts assure them that "it is more blessed to give than to receive," and who know that amidst the varied luxuries which wealth affords, there is none greater than the luxury of doing good.
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> From manifold causes, springing from individual sources, or depending on more external relations of a professional or social kind, hundreds of medical men, and those naturally dependent on them, are known to be in great distress, from the failure of that source of support on which they are necessarily dependent. Many of the causes of these misfortunes lie on the surface, and will be recognised by all. Of this kind may be mentioned:—Original deficiency of means requisite to gain a firm footing in practice; failure from over-crowding of the professional field, or from other unavoidable causes; loss of friends who were kindly assisting the struggler in his early path; loss of fortune from accidental circumstances; and above all, and especially, loss of health in manhood, the infirmities accompanying old age, and finally, death, which, sooner or later, must terminate the exertions of all.
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> The notorious magnitude of many of these evils had long given rise in the profession to a general and strong feeling of the necessity of something being done to mitigate at least, if not to remove them; and this feeling at length issued in the foundation of THE BRITISH MEDICAL FUND.

No one can deny the reasonableness of this appeal; and it behoves all those members of the profession whose means of living depend entirely on daily practice, and who are unable to lay by a provision for age, incapacity, or death, to consider whether they are not incurring a heavy responsibility in neglecting the proffered benefits of such institutions as those to which we are here drawing their attention. The names of the Directors in both Societies include professional men well known for their probity, disinterestedness, and excellent moral character.

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[*] The Secretary of the Society is Mr. Walshe, 42, Half Moon Street.

As the British Medical Fund is perhaps less known to our readers than the old Metropolitan Society, we shall here give an outline of the plan on which it is conducted:—

"I.—The Provident Branch.

"The Provident Branch is strictly a self-supporting fund, being independent of all other sources of supply except the premiums of the members subscribing to it. These premiums, though calculated on the lowest scale consistent with perfect security, are yet fully sufficient to cover all the expenses and risks of the department. It purposes to carry out its objects—1st. By granting Annuities to subscribing members, their widows and orphans. 2d. By making allowances to subscribing members during sickness. 3d. By the payment of fixed sums, on the death of subscribing members, to their widows, children, or other legal representatives. The following are the different forms in which these benefits will be obtainable:—

"1. Deferred Annuities to the Members themselves (varying from £10 to £100), to commence at any specified age, from fifty to seventy, and to be payable to the subscribers during the remainder of life, without regard to the state of their health, or amount of income from other sources. Should the subscriber become incapacitated before the stipulated age, he will be entitled to a proportionate annuity, to commence at the period of incapacity.

"2. Annuities (of like amount) to the Widows of Members, on the principle of survivorship; that is, to commence immediately on the death of the subscriber: the annuity to be claimable absolutely without regard to the annuitant's income from other sources, but to be reduced one-half in the event of the widow marrying.

"3. Annuities (of like amount) to the Children of Members individually, on the same principle of survivorship; the respective annuities to cease entirely on the marriage of the females, or on coming of age of the males.

"4. Family Annuities (of like amount) to the whole children of a family conjointly, on the same principle of survivorship, and with similar limitations.

"5. Allowances during Sickness, or other incapacity, temporary or permanent, to commence, at any age, on the occurrence of the incapacity, and to be payable during its continuance up to the age of seventy, in weekly or monthly sums proportioned to the total amount of the annuity subscribed for.

"6. Fixed sums (not exceeding £200) payable, on the death of the subscribers, to their heirs, on the ordinary principles of Life Assurance.

"II.—Relief Branch.

"This Branch, though strictly auxiliary to the Provident Branch, has funds entirely distinct, and derived from different sources. All sums paid to the Society under the name of Annual or Life Subscriptions, Donations, Legacies, Bequests, &c., &c., belong to it. Its benefits are entirely restricted to members and their relatives; and in the administration of its funds respect will always be had to the amount of contribution to them by the member on whose account claims are preferred. The Directors are invested with a discretionary power in granting relief to claimants; but the following are some of the special modes of appropriation contemplated by the Society:—

"*a.* To grant advances to such of the subscribers for Annuities, Sickness-allowance, or Life Assurance, as may be unable, from sickness or other causes, to pay their premiums when due.

"*b.* To make donations to members who may be disabled by disease, or otherwise in reduced circumstances.

"*c.* To grant relief, under similar circumstances, in special cases, to the widows and orphans, or other near relatives. of members.

"*d.* To augment, by annual grants, the annuities of widows or orphans, when, from particular circumstances, they are found inadequate.

"*e.* To grant loans to members of a certain standing, at low rates of interest, or even without interest, under special circumstances.

"*f.* To grant sums for building, or assisting to build, or otherwise providing cottage-retreats, or other residences, for decayed members or their widows.

"By the laws of the Society, no one can avail himself of any of its provisions, or derive any benefit from it, to himself or others, except through previous MEMBERSHIP; the law relating to which is as follows:—All members of the Medical Profession throughout the United Kingdom, and who shall be duly qualified by law to practise, shall be eligible to become Members of this Society. The terms of membership shall consist in an annual subscription of one guinea, or a life subscription of ten guineas in one sum; but subscribers for any one or more of the benefits of the Provident Branch shall continue to be members so long as they pay their Annual premiums for such benefit or benefits, although they may have ceased to make any other Annual subscriptions or contributions to the Society."*

The annual subscription is small, and is certainly not beyond the means of most men engaged in any branch of medical practice. It should be remembered, too, that the good conferred by such a society is great in proportion to the number of subscribers: the expenses of management are also thereby proportionately reduced. For these reasons, we earnestly recommend this society to the notice of the profession. The principles upon which it is founded appear just, safe, and reasonable. Its usefulness must depend entirely upon the extent of support which it receives.

We ought also to notice here the *Medical Benevolent Fund*, of which Mr Newnham, of Farnham, is treasurer and secretary. We published the annual report of this Society in our last volume.† This is an essentially charitable fund, the object of which is to relieve distressed and deserving members of the profession. It has been established several years. Although its sphere of usefulness is more limited than in the two societies already noticed, yet we have reason to believe that it has been productive of a large amount of good, for which the Society is greatly indebted to the activity and disinterested benevolence of its treasurer. In 1849-50, the subscriptions received amounted to £490, and the sum granted in benevolent aid was £439, among *forty-five* cases of distress.

These Societies would, we think, act wisely in publishing with regularity yearly reports of their proceedings, including an account of the state of their funds, and the amount distributed. We shall have great pleasure in lending our assistance for this purpose.

In addition to the plans above noticed, it has been recently proposed to erect and endow, at a cost of about £18,000, a *Medical College*, for the reception of distressed members of the medical profession and their widows, as well as a school for the education and maintenance of their sons. This truly liberal scheme has, we believe, originated from Mr. PROPERT, a gentleman who is well known for his charitable exertions, and who is one of the directors of the British Medical Fund. We have before us the prospectus of this endowment, from which we learn that it is proposed the College shall provide accommodation for *one hundred residents*; each pensioner to be a legally qualified practitioner, having a clear income of not less than fifteen pounds per annum, and to be elected by a vote of the Council. The widows of legally qualified practitioners to be admitted on the same terms. We quote one paragraph from the prospectus:—

"When the various casualties and difficulties to which medical men are especially exposed are taken into consideration, it must excite astonishment that no similar proposition has hitherto been offered to the philanthropic members of our country. The usefulness of the medical profession to all classes of persons must be apparent to every one who has required their ministrations in seasons of sickness; and, in many instances, the medical man is the confidential adviser and friend of his patients, when his professional aid may not be required. It rarely happens that, notwithstanding the constant toil and anxiety of a laborious and responsible profession, the medical man is able adequately to provide for the exigencies and wants of his family. In the event of sickness overtaking him, or should his life be curtailed by the numerous accidents or dangers to which he is peculiarly exposed, it too often happens that his family are left in a state of destitution."

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* The Secretary to this Society is Mr. Hawtayne, 28, Bloomsbury Square.

† See p. 394.

This plan will obviously require the support of the public, as well as of the profession. Trustees have been already nominated, and we shall join in wishing the project that extensive support which it deserves.

Reviews.

Outlines of Lectures on the Nature, Causes, and Treatment of Insanity. By Sir ALEXANDER MORRISON, M.D., &c. &c. Edited by his son, THOMAS COUTTS MORRISON. Fourth edition, with plates, and much enlarged. 8vo., pp. 481. London: Longmans; and Highley.

THE author fairly infers that the favourable reception, by the medical profession, of three editions of his Lectures, may be regarded as an inducement to publish a fourth and much enlarged edition. The object of these Lectures is sufficiently indicated on the title-page: the hope of their author is, that they may prove useful to the student and young practitioner, in obtaining an insight into the class of disorders of which they treat. The present edition, we perceive, is "much enlarged;" but the actual subject of the work is not entered upon until we arrive at page 120, the introductory portion being occupied with historical observations, and a general outline of the anatomy of the brain and nervous system, and a sketch of the views that have been entertained with regard to the phenomena of mind.

A few walks round the wards of any of our large public asylums for purposes of clinical instruction, followed up by the study of these Lectures, will go very far to prepare the practitioner for the responsible charge of cases of insanity.

The entire matter (from page 120) is strictly practical; each topic is clearly and briefly discussed, and illustrated by cases, which the author's large experience readily supplies for every occasion.

We observe that, while adopting the classification proposed by Pinel and Esquirol, the author speaks throughout of the disease insanity as manifesting distinct stages according to the period of invasion: thus he describes the "incipient stage," the "confirmed stage," and the "termination of the active stage." This subordination of the particular forms or varieties of the disease to the more important practical division which has been so ably enforced by Mr. Morrison, jun., as the acute and chronic stages of the disease, is of great service with regard to treatment, and is in strict conformity and harmony with the phenomena of disease generally.

The author's remarks upon treatment are of a highly judicious character, and obviously the result of long experience in the management of the insane.

With reference to bleeding—the hasty employment of which, with a view to the reduction of early acute symptoms, has been the source of much real injury, and has often prolonged or fixed an attack of insanity—we find the following remarks:—

"Although, by taking away a large quantity, we may suspend the violence of the disorder by exhaustion, it will reappear with unabated violence as the bodily strength is restored. We ought always to keep in mind that the vascular excitement is not alone, nor indeed primarily implicated in the manifestation of insanity, and that there is also disorder of the nervous system, difficult indeed to explain, but not the less real. The certain effect of bleeding is to lower the physical strength, and in many cases without alleviating the nervous or mental disorder" (p. 328).

This is what ought always to have been expected under such rash treatment in a disease the essential nature of which is a deficiency or loss of nervous energy. It is frequently seen that a more permanent soothing effect after, and sometimes even during, a violent paroxysm of mania, is gained by the administration of a moderate stimulus. In one allied form of disease, delirium tremens, the success of such a mode of treatment is well known; and too well known are the results of an opposite plan of treatment.

Among the remedies which have been employed empirically in insanity, the author notices narcotics and sedatives. In respect to narcotics, opium has enjoyed a considerable reputation; its use, a few years ago, having been strongly recommended by an eminent physician, a Commissioner of Lunacy. "It is difficult (the author observes) to ascertain previously the cases in which advantage may be obtained from opium without making a trial." In some cases of melancholia it has been found of great service, when administered in moderate and continued doses; but there is little good to be expected from its use when given to the extent of producing stupor, which, besides being of itself extremely difficult to produce during a paroxysm of excitement, will probably be found to have little influenced the disease when its influence has subsided.

With respect to other sedatives, we select some observations on chloroform, which has lately been tried in a few cases in Bethlehem Hospital, with a view to allay maniacal excitement:—

> "It was found to produce the same physiological effects upon the insane as upon the sane, and that the most violent and excited were put into a state of calm and profound repose by its influence. As a curative agent, I have found no lasting benefit resulting from its use; since, in the cases in which it was tried, the patients reverted to their former state as soon as the anæsthetic effect had passed away" (p. 346).

Under the head of Pathology, the author can add nothing to the present indefinite character of the post-mortem records; but there is a very excellent summary of the appearances, both in insanity and epilepsy, given in the Appendix.

The work concludes with a series of plates illustrative of the physiognomy of mental diseases. Most of these, although rather roughly executed, are clearly expressive of the forms of the malady which they are intended to exemplify; but, taken as a whole, they do not equal in force and truthfulness the outline sketches given in Esquirol's work. We cannot refrain from quoting the following graphic picture of certain forms of insanity, which was written by a gentleman suffering under melancholia, and was found by the author in his patient's pocket-book. For exquisite poetical beauty and pathetic expression of despondency, we do not remember to have met with its equal: it leaves nothing for the painter to depict:—

> "There is a winter in my soul—
> The winter of despair:
> Oh, when shall spring its rage control?
> When shall the snow-drop blossom there?
> Cold gleams of comfort sometimes dart
> A dawn of glory on my heart,
> But quickly pass away:
> Thus northern lights the gloom adorn,
> And give the promise of a morn
> That never turns to day."—(p. 137).

This volume of Lectures will be found to fulfil the intentions of its author: it will serve as a useful guide to the student, and a work of reference for the advanced practitioner.

A Child's First Hour, &c. By a PHYSICIAN. pp. 71. London: Ackerman. 1851.

THIS little essay is chiefly addressed to young mothers. It advocates a rational treatment of newly born infants, in place of the unreasonable proceedings in the shape of brandy-frictions, pinning, and purging, to which they are now subjected by that ancient race of monthly nurses typified in the person of Mrs. Gamp.

The author's arguments are irresistible. We hope that they may meet the eyes of young mothers, and effect that nursery-reform which is so urgently demanded. A child is dosed at its entrance into the world, not that it really requires dosing, but because it is an immemorial custom of monthly nurses to administer physic to the little stranger, and *they* have never known "any harm come of it." It is time that such irrational practices should be stopped by medical men, who too often allow the newly-born infant to be tortured merely for the sake of gratifying the prejudice of the monthly nurse.

Urinary Deposits, their Diagnosis, Pathology, and Therupeutical Indications. By Golding Bird, A.M. M.D. &c. &c. Third edition. 8vo. London: Churchill. 1851.

The work before us is so well known to members of the profession, that we feel it unnecessary to do more than direct their attention to the publication of a third and enlarged edition. We have looked through the volume, and find that the author has taken care to keep it on a level with the present state of science. It is full of useful information to the practitioner, as well as to the pathologist and chemist.

The Prescribers' Pharmacopœia. Containing all the Medicines in the New London Pharmacopœia of 1851. By a Practising Physician. Fourth edition. 18mo. London: Churchill. 1851.

It is ten years since this little pocket volume first appeared. It has now reached its fourth edition; a fact which shows that it has found favour with the public. It is a multum in parvo for the prescriber, recalling facts which might otherwise be lost to memory when most urgently required. The arrangement is on the whole good, and the third part contains useful information on poisons and their antidotes—temperature of baths—proportions of active ingredients in medicines, &c.—doses according to age—mineral waters, &c. The Prescribers' Pharmacopœia will be found a useful companion by the student of clinical medicine.

Rudiments of Chemistry, with Illustrations of the Chemistry of Daily Life. By D. B. Reid, M.D., F.R.S.E., &c. Fourth edition. Small 8vo. pp. 194. London: Baillière. 1851.

This is a popular little treatise on experimental chemistry, and well adapted for beginners. Its great merit is, that the author describes just so much as is adapted to the capacity of a young, inquiring, and untaught mind. The remarks on the chemistry of daily life, including warming and ventilating, add an interest to the subject which cannot fail to fix the attention of the reader. Dr. Reid has contrived to describe the experiments and processes without overloading his description with symbols. We recommend this book to all who wish to acquire a rudimentary knowledge of a most interesting science.

The Philosophy of Living. By Herbert Mayo, M.D. Third edition. 8vo. pp. 282. London: Parker. 1851.

This little volume is replete with good sense and useful information. We have felt it our duty to condemn some of the later writings of Dr. H. Mayo, and it is therefore the greater pleasure to us to find that we can now speak favourably of a book which is written in a spirit of sound philosophy. We may here enumerate the contents:—Diversities of constitution; diet; exercise; sleep; bathing; clothing; air and climate, and health of mind. Dr. H. Mayo has brought his well-trained physiological knowledge to bear on all these subjects, and has treated them with an interest which cannot fail to command attention. The book is adapted to all classes of readers: its popularity is evinced by its having reached a third edition. We can strongly recommend it to those professional men who take an interest in hygienic subjects, and who require some good physiological rules to guide them in giving advice to their patients.

COMMUNICATION OF CANINE RABIES TO SHEEP.

A curious case of rabies has occurred at a farm at Aisne. Towards the end of February last, a strange dog entered the sheepfold of a farmer. About the 16th of March one of the sheep was observed to be very restless, and when it saw any person it immediately ran at him and butted him furiously. The cause of this was a mystery until the fact of the strange dog having been among the sheep was remembered. It was then suspected that the sheep was rabid. The mayor of the place immediately had the sheep slaughtered. In a few days afterwards a second sheep exhibited the same phenomena. In order closely to observe the symptoms, this animal was separated from the flock. The poor creature suffered such violent paroxysms of madness that he was constantly running his head against the wall, until it was disfigured by tumefaction and wounds. He was soon after killed. No other case had occurred subsequently.—*L'Union Médicale.* X

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

April 1, 1851.

Mr. POLLOCK exhibited a specimen of *Extensive Cancerous Ulceration of the Face*, by which the right cheek, the upper lip, and nose, the right and the greater portion of the left eyeball, were destroyed, and a large portion of the bones of the face.

The preparation was taken from a man, upwards of seventy years of age, who had formerly attended as an out-patient at St. George's Hospital. At that time the disease was confined to the integuments and globe of the right eye, all of which were converted into an ulcer, clean on its surface, with edges somewhat raised, irregular, and slightly tuberculated. The ulceration had commenced in the lower lid some two or three years previous, and had gradually increased to this condition. Chloride of zinc was applied, and was followed by healthy action for a time, but ulceration returned, and gradually progressed to the frightful extent seen in the specimen presented to the Society. The extent of the ulceration may be defined by a somewhat circular line: commencing from the anterior margin of the right ear, the line of demarcation passed upwards over the region of the temporal muscle to a point an inch and a half above the external angle of the right orbit; it then passed inwards about an inch above the orbital arch, to the median line; it then gradually passed downwards, and through the centre of the left eyebrow; then obliquely through the upper lid of the left eye towards its outer angle, downwards over the left malar bone, and through the substance of the left cheek into that of the lower lip, the upper half of which was destroyed: passing from left to right across the median line, through the lower lip, it dipped rather suddenly downwards on the right side, and then passed upwards to the anterior margin of the right ear, the point from which the description commenced. Almost the whole substance of the soft structures included by this line was entirely destroyed by ulceration,—that is to say, from the margin of the right ear to the left malar bone, the integuments were entirely gone, as also from an inch above the root of the nose to the lower half of the lower lip—viz., all the right cheek, the contents of the right orbit, the covering over the right masseter, and the greater part of the right temporal muscle; the right eyelid, eyebrow, and the integuments an inch above the eyebrow; the integuments and cartilages of the nose; the whole of the upper lip; the greater portion of the left upper, and the whole of the left lower lid; the greater portion of the contents of the left orbit; the greater portion of the left cheek, and half of the lower lip. There was also an isolated spot of ulceration under the right side of the lower jaw. The whole of the right malar bone, the right superior maxilla, the right nasal, palate, and turbinate bones, were entirely destroyed and gone. The right frontal sinus was laid open by ulceration of bone; and the under surface of the orbital plate of the right side of the frontal was carious; and the anterior surfaces of the right pterygoid processes, and the external pterygoid muscle on the same side, were exposed. On the left side, part of the nasal bone, the greater portion of the superior maxilla, and part of the malar, and the greater portion of the palate bones, were destroyed: the posterior walls of the left antrum remained. An ulcerated opening through bone existed between the left orbit and the nostril. The right orbit, nares, and mouth, were thus laid into one cavity. At the back part of the mouth the soft palate still remained, with a deep ulcerated anterior edge.

The left eyeball remained, but the cornea was opaque and sloughy; the soft structures on its inner side being much ulcerated, and the globe itself lessened in size. The tongue was not affected.

Mr. Pollock remarked that though he had met with several cases of cancerous ulceration of the face, he had never seen one of so extensive a character as the specimen exhibited; for that it generally happened that the patient died previous to the disease committing such ravages. The disease had been generally considered of a cancerous nature, but the microscopical characters of cancer were wanting in the examination of the parts implicated by the disease. It varied from true cancer in the slowness of its progress, generally taking some years to arrive at any considerable extent of ulceration, commencing with a small wart, pimple, or slight spot of ulceration. In its early stages it was generally under the influence of treatment; but it appeared to return invariably after a time, and ultimately proved fatal.

The treatment Mr. Pollock was most inclined to adopt in similar cases was to remove freely with the knife all early indications of the disease, avoiding the use of caustics, more especially the chloride of zinc, as its application was attended with intense suffering of many hours' duration; and though he had seen it produce a beneficial effect at first, the benefit was but of short duration, and never effectual. Constitutional treatment appeared to exert no influence over the disease.

April 15, 1851.

Dr. Hamilton Roe exhibited a specimen of

Aneurism of the Anterior Cerebral Artery,

from a woman, æt. twenty-one, who was admitted into the Westminster Hospital on the 7th of January, 1851, under his care. In the beginning of January, 1850, she began to be troubled with a pain in the forehead that gradually increased till it became so violent that she was obliged to leave off work, and go to bed: soon after she was undressed she was seized with what she calls an hysterical fit, and remained insensible for two hours. She recovered sufficiently in a few days to resume her employment. In February she had another similar attack, followed by profuse perspiration; and from that time she was observed to be unusually drowsy, and to sleep a great deal: the pain of the forehead continued. The only benefit derived from treatment was from blisters, as long as they continued to discharge. She gradually became weaker and thinner, though taking her usual quantity of food. In December she perceived that she could not read small print, and by accident discovered that she could not see with her right eye. Her memory of events long passed was good, but not so of late ones. On admission she could not see with her right eye, and its pupil appeared somewhat larger than the left; the angle of the mouth was drawn up on the right side when she smiled, but there was no loss of sensation about the face, and her senses were perfect. Pulse 80; skin cool; pain of head very distressing; tongue white, and coated; bowels costive; catamenia absent three months. She remained in much the same state till the 11th of March, when her breathing became gradually stertorous, and she died apoplectic.

On examining the brain, marked increase of vascularity was observed in the dura and pia mater; the brain was firm and natural in structure. Four ounces of serous fluid were found in the ventricles. The corpora striata and optic thalami were healthy. On removing the brain, a tumor, of the size, and somewhat of the shape of a hen's egg, was found resting on the right half of the sella turcica: it had flattened the projecting portion of the middle lobe of the brain, and also pressed on the anterior lobe of the right hemisphere. That part of the sphenoid bone on which the tumor rested had been considerably absorbed by its pressure. The right crus cerebri was much flattened, and the right optic nerve, both anterior and posterior to its commissure, was flattened, and wound round the under surface of the tumor. The right olfactory nerve was compressed, but the tumor did not interfere with the roots or course of any of the other cranial nerves.

Some doubt having been expressed as to the aneurismal nature of the tumor, Dr. Brinton was requested to institute a further examination, and at the next meeting reported as follows:—When previously exhibited, the tumor had been laid open by an incision through its upper and translucent wall, which had exposed a cavity partially filled with soft and imperfectly-laminated yellowish fibrine; and a probe had been passed through the large vessel into the lower part of the tumor.

On tracing this artery by cutting it open, it was found to be smoothly continuous, as a vessel the size of a crow-quill, into the under surface of the general cavity of the tumor, where it had a special compartment, which was filled with coagulated red blood like that in the vessel, and was separated from the cavity on the upper surface by a dense laminated mass of fibrine. This mass had attained a considerable degree of organisation; containing, with blood-discs, very numerous fibres. The convexities of the laminæ were towards the artery and its special compartment of the cavity; or, *vice versâ*, their concavities corresponded with the upper part of the tumor.

The only way in which he could account for this strange contrariety was by supposing that, some time previously, blood from the vessel had gradually dissected off the ordinary laminated coagulum of fibrine from the wall of the sac, so as to allow of its position being altered and reversed. In this position it had probably remained, dividing the oval cavity into two portions, an upper and a lower, which in the specimen were found filled with soft fibrine, and with coagulated blood; corresponding to their isolation from, and communication with, the vessel respectively.

The rarity of these intracranial aneurisms, and a hint from Mr. Hewett as to their still greater infrequency at such an age, and of such size as the specimen brought forward by Dr. Roe, had led him (Dr. Brinton) to think it might not be uninteresting to the Society to have the results of a search which he had made in the various treatises and journals.

He had collected about forty well authenticated cases: all of these, with exception of one or two, took cognisance of the circumstances of age, sex, size, site, and termination.

Dr. Stumpff, of Berlin, quoted and gave about six or eight in a dissertation published in 1836. Dr. Albers, of Bonn, added five or six to these, in a tract published about 1840. Dr. Crisp had collected eight in a treatise on the blood-vessels, published in 1846. He would not trouble the Society at present with further references to these cases, or by detailing the particular circumstances of each: it was enough for him to mention that, with the exception of one only, Dr. Roe's specimen was unique in point of size; and even that one, being stated as "multilocular," was, he presumed, a fusion of two or more sacs into one.

The general results were as follows:—

Age, on the average, 42. From birth to 20, youth, one-sixth; from 20 to 35, early manhood, one-sixth; from 35 to 50, declining manhood, two-sixths; 50 to 65, old age, two-sixths; extreme old age, none.

Sex.—Male to female as two to one.

Site.—Anterior or carotid to posterior or vertebral system of vessels, equal; the basilar, one-third of the whole number.

Size.—Half "filbert," one-fourth "pea," one-fourth "walnut."

Termination.—In one-third only, rupture: or, more exactly, in three-eighths, rupture; in one-eighth, pressure, simple loss of functions; in one-eighth, epileptiform or convulsive attacks; in one-eighth, congestion or hæmorrhage of brain; in one-eighth, inflammatory conditions of brain; in one-eighth, coincident disorders or accidents. In three instances the aneurisms were more than one in number; in one instance, three were found; in one instance, opposite carotids were alike affected, or symmetrical aneurisms existed.

Mr. WALTON exhibited a specimen of

Diseased Knee-joint,

for Mr. Coulson, removed from a patient æt. 32, who was attacked with the disease in April 1848. A year later, when there were abscesses about the joint, it appeared that there was not constitutional vigour enough to justify amputation; but he subsequently rallied, and, at the beginning of 1851, he was first seen by Mr. Coulson. In consultation with Mr. Walton, amputation was decided on, and performed on the 17th March.

The value of the specimen rests in the great attempt at repair exhibited in partially true and partially false anchyloses. There is no vestige of any of the parts that naturally extend into the structure of the joint, and a considerable portion of the femur and tibia have ulcerated away; but so close an approximation have their rugged surfaces acquired, that there is but a very small suppurating cavity, from which there are two sinuses—one in front, the other behind. The soft parts around the joint have become consolidated into dense ligamentous substance, which is particularly apparent in front, and in which consists the false anchylosis, while the true is exhibited in the union between the patella and the tibia, where there is but a faint line to indicate their former distinctness.

It may appear remarkable that the amputation was so near the joint, but the only condition on which the patient would allow the limb to be removed was that there should be a long stump. The flap operation was done, and the lower flap was taken principally from the calf—a method of amputating not often adopted, but one that possesses its advantages in affording a long stump, and in allowing a better style of progression.

Dr. BENCE JONES exhibited a specimen of

Spontaneous Coagulation of Blood in the Carotids, causing Inflammation of the Brain.

A strong-made, healthy-looking labourer, æt. 45, was admitted into St. George's Hospital on the 30th October, 1850. He was said to have been in perfect health up to the 19th October, when, in consequence of a severe tooth-ache, he had two teeth drawn. From this time he gradually lost his power of speaking, and of moving the right half of the body. He had no fit, and no loss of consciousness. On admission, the face was drawn to the left, the tongue was protruded to the right. He was quite conscious and intelligent, but unable to answer any questions, or express himself in words: he uttered noises and sounds which seldom formed words, and the words he did use were not those which conveyed what he wanted to say. The pulse at both wrists was exceedingly feeble; the heart's sounds were healthy; and the impulse natural. There was no albumen in the urine. The pupils were dilated. He had been bled, and was salivated.

When in the house he was blistered, and he gained some power over the leg, but in no other respect was there any improvement. He gradually became more childish, crying suddenly without any apparent cause: he became unable to retain his motions and water. On February 7th he had strong convulsions, chiefly on the right side, after which the muscles of the right arm were observed to be rigid. He died on the 10th of February.

The bones of the skull were quite healthy, and so was the dura mater. A small quantity of fluid was found in the subarachnoid cellular tissue, and the large veins on the surface of the brain were distended with blood.

On slicing the brain the white substance of both hemispheres was found to be remarkable vascular, the puncta of blood being much more numerous and much larger than natural, but the grey matter was very slightly affected. In the neighbourhood of the lateral ventricles the white matter assumed a pinkish colour throughout, and in the left hemisphere it gradually became soft, and at last quite diffluent, both over the ventricle as well as beneath it, breaking up when placed under a slight stream of water. These appearances existed in the greater part of the left hemisphere, but the right one was only increased in vascularity. The cerebellum was not affected, neither was the pons. The membranes of the base were merely increased in vascularity.

A careful examination of the arteries of the base proved that these vessels were extensively filled with coagula of blood of long standing, for the most part colourless, and adherent to the internal membrane of the vessel; so adherent in some places that they were with difficulty separated. In most places these coagula merely lined the cavity, leaving a channel in the centre, through which the circulation had been carried on. The disease at first sight presented very much the appearance of a thickening of a coat of the arteries from atheromatous deposit. These coagula, partially closing the arteries, were found in the basilar and in both posterior vertebral arteries, as well as in the right carotid, the canal of which at the anterior clinoid process was reduced to one-third of its natural size.

In its course through the skull it was found that the coagula in this vessel existed only in the neighbourhood of the cavernous sinus. In the other parts the vessel was healthy. On the left side the carotid was much more extensively affected. Thick coagula lining the inner membrane were found just at the entrance of this artery into its canal, and on tracing the vessel upwards these coagula increased in thickness; so much so that at the cavernous sinus, and above this point, the vessel was all but closed, there being a canal left scarcely large enough to admit a small bristle. These coagula extended into the anterior and middle cerebral arteries, at least into the commencement of these vessels. Some milky fluid was found in the lateral ventricles.

The carotids were traced into the neck, but very thin and slender coagula were found in them, and these only in the neighbourhood of the skull. The coats of the vessels were perfectly healthy.

The muscular tissue of the heart was healthy; a few spots of atheroma were found, both in the mitral valve and in the the aorta; some small fibrinous deposit of long standing existed on the surface of the mitral valve. With these exceptions the organs in the chest were perfectly healthy. The abdominal organs were healthy.

Dr. PEACOCK mentioned having seen a case similar to that described by Dr. Jones, while Pathologist to the Royal Infirmary of Edinburgh. A man, æt. 74, was admitted into the hospital in December 1842. He had long laboured under difficulty of breathing, cough, &c., and had been much more severely ill during the last fourteen days, when he had been lying in an empty house, without any one to attend on him. When admitted he was much exhausted, and the following day he had severe rigors, followed by heat and perspiration, and seemed relieved afterwards. Early on the morning of the third day he was seized with convulsions followed by insensibility, and died in ten hours.

On examination the whole of the arteries forming the circle of Willis at the base of the brain were found more or less completely obstructed by coagula. The two cerebral arteries were much dilated, and their coats perfectly rigid and very thick. The canal of the artery of the right side was entirely filled by decolorized fibrine, while its branches contained firmly coagulated but dark blood. The left cerebral artery and its branches were only partially obstructed, and the coagula were not decolorized. The vertebral arteries were of large size, and their coats thickened, opaque, and in places osseous, but their canals were free from coagula. The basilar artery was, on the contrary, small, and with its branches contained dark coloured coagula. Their coats were much thickened and indurated. The brain did not present any appearance of disease. The heart was of large size, and weighed 19½ oz. avd., and both ventricles, but especially the left, were hypertrophied and dilated. There was no arterial valvular disease, but the aorta and its branches were much dilated, and in their coats large and thick atheromatous deposits.

With the exception of the lungs, which were emphysematous and engorged, and the bronchi filled with mucous, the other organs were healthy.

Mr. TOYNBEE exhibited numerous preparations illustrative of hypertrophy in the epidermoid and dermoid laminæ of the membrana tympani.

The observations on the diseased conditions of these membranes were preceded by an account of the structure and relation of the dermoid laminæ as published in the Philosophical Transactions. The dermoid lamina of the membrana tympani was described as being continuous with the dermis of the external meatus, and the blood-vessels of the two structures freely communicated: the exquisite sensibility of the surface of the membrana tympani was described as being due to this structure. The epidermoid layer is secreted by it. In a natural condition it is extremely thin and transparent. In a state of disease this layer often becomes so thick as to exceed by several times the natural thickness of the healthy membrana tympani; it forms a white layer which adheres less firmly than natural to the external surface of the radiate fibrous lamina, the concavity of which it entirely fills up. Such was the condition of this membrane in the specimens which were laid before the Society. This membrane is the source of the discharge in catarrhal inflammation of the dermoid layer of membrana tympani, one of those diseases which has hitherto been comprised under the sweeping term "otorrhœa." In a natural state the epidermoid layer is thin and transparent, but, like the dermoid lamina, it is liable to become very thick: indeed, as was seen in some of the specimens laid before the Society, it is not unfrequently composed of an almost innumerable number of laminæ which occupy the inner third or inner half of the meatus.

Mr. **Shaw** exhibited a specimen of

Enlarged Prostate Gland,

from a man, ætat. seventy-one, admitted into the Middlesex Hospital, on the 26th of December, 1850, for retention of urine. During the last two years he had been twice admitted for the same complaint, caused by enlargement of the prostate gland. For two days previous to his last admission he had suffered from difficulty in passing water, and the bladder was greatly distended. Before seen by Mr. Shaw, several unsuccessful attempts had been made, with the common sized catheter, to draw off his water, followed by much bleeding, supposed to be from the prostate. The silver prostatic catheter entered the bladder without difficulty, and a large quantity of bloody coloured urine was withdrawn. The urine continued discoloured with blood for several days; it was drawn off three times daily, for ten days, and then once a day only, as he began to regain the power of expelling it himself, till the instrument was no longer necessary.

On the 24th January, without any assignable cause, blood appeared mixed in his urine; but under the administration of gallic acid, the bleeding ceased in four days. On March 2d, after the catheter had been laid aside for some weeks, there was a return of hæmorrhage; and not only was the urine bloody, and occasionally passed with clots of blood in it, but blood flowed by itself from the urethra, sometimes coagulating in the passage; bladders of ice were applied to the pubes and perineum, and he took gallic acid, pills containing acetate of lead and opium; but a fortnight elapsed before the bleeding altogether ceased, and the loss of blood was very considerable. Except on one occasion, when it was feared that the orifice of the bladder was obstructed by coagulum, the catheter was not used.

The urine, which had previously contained a small quantity of pus, became much more loaded with it, and diminished in quantity; and he expired on the 28th of March. The prostate gland was enlarged to the size of a moderate sized orange; the chief part of its bulk was composed of the right lobe, the dimensions of which had been increased principally in front, so that it presented a large globular tumor which pressed down upon the urethra, and spreading over the sides of the inferior parts of the gland, expanded the canal, and formed a hollow cavity for its reception; there was also a projecting tumor, about the size of half of the last joint of the thumb, at the situation of the third lobe, where the globular tumor fell down upon the verumontanum, and compressed the urethra; the surface exhibited marks of having been lacerated by the point of the catheter, and these parts were covered with a firm deposit of lymph. The cut surface of the gland presented an appearance of subdivision into numerous lobes; under the microscope the structure was seen to consist of fibrous tissue. The bladder was contracted and its walls much thickened, it contained pure unmixed pus; the ureters were extended to the size of the mid-finger, and were tortuous; in both kidneys the pelvis was much enlarged; these organs were lobular, and partly sacculated, and contained much pus. There were no adhesions contracted with the adjoining parts of the diseased prostate, nor cancerous deposits in the lumbar glands, nor other organs of the body, to warrant the idea that the disease was cancer.

Dr. **Ogier Ward** exhibited a specimen of

Transposition of the Aorta and Pulmonary Artery.

A. T., born March 9th, 1851, with a depression of the right parietal bone, from compression at birth. As nine of the family had compression of the skull at birth, and two had died of affections of the brain, Dr. Ward was not surprised at the child remaining livid, and not crying with vigour after birth. In two or three days the head regained its normal shape, but the lividity remained; and he then concluded that it arose from some malformation of the heart. The temperature of the child was always low, its cry feeble, and it was so much oppressed with sleep as to care little for food, which it sucked with difficulty. The sounds of the heart were normal, the respiration irregular, indicating congestion of the brain. It died on the 18th day. The body was generally livid; scalp gorged with fluid blood, as also the membranes and substance of the brain, which was firmer than usual. The ventricles were distended with serum. Lungs exhibited vesicular emphysema in front, but at the back and base they were almost solid. Heart distended with fluid black blood, particularly on the left side, from which it flowed through the pervious ductus arteriosus on the aorta being laid open, when it was discovered that this vessel arose from the right ventricle, while the pulmonary artery proceeded from the left. The venæ cavæ, as usual, joined the right auricle, and the pulmonary veins the left. The valves were normal; the Eustachian tube would admit a crow-quill, and opened from the right to the left side of the heart. The substance of the heart was very dark-coloured, and there was some fluid in the pericardium. The abdominal viscera were healthy, but congested. The umbilical vein was still pervious, and contained dark fluid blood.

Death was evidently owing to the extreme congestion of the brain, and the congested and unexpanded condition of the lungs, which scarcely floated in water.

In February 1847, Dr. Norman Chevers collected five instances of this malformation of the heart, in which the primitive arteries were transposed, the ductus arteriosus and foramen ovale pervious, and the septum of the ventricle perfect.

Another case is described in the *Brit. and For. Med.-Chir. Rev.* for Jan. 1851, occurring in America, by Dr. Johnson.

The explanation of the origin of these malformations is thus given by Dr. Quain:—"In the development of the heart and great vessels these parts consist at one period of a single cavity which is to form the heart; of a bulbus arteriosus, which forms the trunks of the pulmonary artery and aorta; and of brachial arches, which become the primary branches of these vessels, and in this condition all form one continuous channel.

"It is simply by a division of the bulb that the two great trucks are formed; while the innominate, carotid, and left subclavian arteries are formed from certain of the branchial arches, still remaining in communication with one division of the bulb; while the right and left pulmonary arteries are formed by the remaining arches, still retaining their connection with the other division. Hence, in the above instance of transposition of the aorta and pulmonary arteries, the whole phenomenon consists in the branchial arches which go to form the primary branches of the aorta, retaining their connection with the right side of the heart, while the arches constituting the branches of the pulmonary artery remain connected with the left side of the heart, in consequence of an abnormal division of the primitive bulbus arteriosus."

Mr. Obre exhibited a

Fibrous Tumor of the Cervix Uteri,

removed, with the cervix, by operation. Mrs. W. æt. 34, about three years ago began to suffer from occasional uterine bleeding, which soon became continual. At times the discharge was thin and sanious, again pure blood; but she was never free from a bloody discharge for more than three days at a time. It was so extensive for a year as to confine her to the house. She kept her bed a month (under the care of Mr. Lerew) without the slightest alleviation of bleeding. She became greatly anæmiated, and the pulse small and quick. On examination per vaginam, a firm tumor was felt in the situation of the os uteri, about the size of the bulbous end of a small pear. The circumference at its attachment was about 2½ inches, externally rough and fissured. The body of the uterus was felt above the tumor to be free from disease. The os uteri could not be made out.

Mr. Obre first saw her on Nov. 9th, 1850, with Mr. Lerew. On the 11th, after a second examination, the disease was considered to be a tumor having its origin from the inner surface of the cervix, and adhering to its entire circumference. The bleeding having continued, and her life being threatened by it, it was decided to remove the cervix of the uterus with the disease, other remedies having been persevered in for months without the slightest benefit. The fingers, assisted by a pair of large forceps, gradually pulled the uterus down, until the diseased structure appeared externally; it was then removed with a knife; no bleeding followed. She was extremely exhausted, but rallied subsequently. She had a restless night, with some degree of abdominal pain and vomiting; but her symptoms gradually improved, except the vomiting, which only yielded to the liberal use of champaign. On the 18th she was considered convalescent.

The next day the slight discharge, which had continued since the operation, became tinged with blood: an injection was prescribed, to remove its slightly fetid character. The following day the bleeding came on suddenly and to a great extent. Both the patient and her friends obstinately refused to permit any further attempt to restrain it, and she died during the day (the 20th), nine days after the operation.

The body was not examined. The tumor with the cervix weighed an ounce. The disease appeared to grow from the entire inner circumference of the cervix uteri, and advanced to such an extent as merely to leave room for a probe to be passed into the uterine cavity. The diseased structure was examined by Mr. Quekett and Dr. Walsh, who agreed as to its character and structure. The following microscopic appearances of its minute structure are from Dr. Walsh:—

1. Delicate fibrous stroma, wavily arranged, and studded with granular matter.
2. The fibrils are irregular in outline, from the presence of granules in and on them—possible residences of nuclei in part; no other nucleated appearance in them.
3. No fusiform fibril or cell.
4. No spherical cells, except a very few insignificant in size, and containing granular matter without nucleus.

Acetic acid renders the stroma indistinct, and brings into stronger relief the granular matter, but does not make obvious any cell. The disease appeared to be a variety of fibrous non-malignant growth, not in a condition of active progress.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

April 1881.

Traumatic Tetanus cured by Simple Local Treatment. Mr. Eddows.

O. J., æt. 30, labourer. Feb. 24: Fourteen days previously he struck his hand against a large packing needle, which inflicted a good-sized wound on the ball of the thumb of the left hand. He went to a chemist's, who applied a suture and strapping, which were not removed till the 5th day. The wound was healed on the 10th. Three days after the healing he was at work amongst wet rags, and, while at dinner, noticed a stiffness of his jaws, and "at night felt a stitch or catch under the right shoulder-blade," sometimes going through to the sternum. When he came to the Dispensary, he complained of stiffness of the jaws, but could open his mouth to one and a half inches; drawing outwards of the angles of the mouth, giving an amiable expression when he spoke; occasional cramps in the wounded hand; can close his hand quickly, but extension is made slowly and with pain; tendernes at one portion of the cicatrix, where th surgical chemist had placed the suture. I removed a portion of the cicatrix, including the tender spot. In the evening, half a grain of the acetate of morphia, diluted with a little chalk, was applied to the wound, over which was placed a poultice. A blister was ordered to be applied to the back of the opposite hand, so as to afford a denuded surface for the application of morphia. Pulse unaffected. Tongue clean.

2d day.—Slept well; has a little more pain in his hand of a "drawing" nature; jaws the same; the blister had been applied to the back of the wrong hand. To apply one to the right.

3d day.—Omitted last night to apply the morphia to the *wound*, but it was applied to the *blistered surfaces* of both hands; jaws closer; complains of the pluckings of the arm and hand; occasional feelings in the chest like smothering; says that, when he closes his mouth firmly, it gives his hand pain. The morphia to be applied to the wound, and blistered surface on the opposite hand.

4th day.—Much the same; jaws about half an inch apart; pain confined to the arm.

5th day.—Spasms of the hand fewer; no pain when the hand is quiet; bowels not relieved. An enema of castor oil and soap.

6th day.—Bowels open; free from spasms when the hand is quiet; jaws the same. To paint the Tinct. Aconite over the flexors.

7th day.—Sleeps well, but is awoke in the morning by the plucking; anything moving, even the falling of a cinder, will induce a spasm of the arm; the application of the aconite did not relieve the pluckings; jaws the same; swallows beef-tea easily. To have ♏v. Tinct. Aconite on the wound, and then the morphia as before.

8th day.—Two hours after the application of the aconite and morphia, felt more ease than at any previous time; spasms fewer; says "the tightening of the chin is less;" jaws the same; bowels open; was not awoke, as before, by the plucking; an occasional stitch from sternum to scapula. ♏x. Tinct. Aconite to the wound.

9th day.—Still better; jaws a little more separated; pluckings confined to the wrist and hand. ♏xv. Tinct. Aconite.

10th day.—Blister on back of right hand nearly healed; last night, for an hour before the wound was dressed, for the first time had pluckings of legs, "as though they were drawn to the bed;" had also some pain at the lower part of the belly; jaws the same.

11th day.—The surface where the blister had been was quite healed, leaving no absorbing surface; had the pains in the legs last night, which made him shout loudly; cutting pain between the shoulders; feels "as though his loins were pulled together;" abdominal muscles rigid; right side more affected than the left; jaws the same. To have a blister applied above the situation of the former one.

12th day.—Dressed the blistered surface with the morphia, &c.; and, in an hour or two, was free from all his pains, and quite comfortable.

13th day.—The wound resulting from the removal of the cicatrix being nearly healed, a blister was applied on the wrist above for the application of the morphia, &c.: had no return of the attacks, except occasional twitchings. Took quinine and valerian, and on the

18th day ate lbes. of beef steak, and was lost behind the clouds of his own pipe.

There remained a contraction of the flexors, but this was removed by a splint; but the power of using the muscles has not yet returned.

There are many points of interest in this case, and I would wish to call attention to one or two of them.

1. *This man's symptoms first came on after the healing of the wound,*—a circumstance by no means unusual, though I am not aware that any reasons have been given why such should be the case. I think that one of Dr. M. Hall's experiments, showing that the extreme terminations of nerves possess the excito-motory power in a much higher degree than the trunk, will help us to furnish an explanation. "If," says he, "after removing the head of a frog, we divide the integuments along the back, and raise them by means of the forceps, we observe the *trunks* of many cutaneous nerves. Now, if we irritate these trunks, no movements follow; but if we irritate the cutaneous texture on which they ramify, movements of a *very energetic nature* are produced." Now in the healing process of a wound it must be evident that the extreme distributions of the cutaneous nerves would only be involved when that process was nearly or wholly completed. And may it not be the involving these, the more easily excited terminal branches, that is the starting point of the disease? Another point of interest in this case is—

2. *He had spasm of the wounded hand and arm as one of the earliest symptoms: it continued throughout, and at last was the only remnant of the disease.*—This condition is not a reflected one, but the result of disease in the reflex or motor nerve; while, on the other hand, the trismus, with the affection of the abdominal muscles and legs, are reflected, resulting from injury to an incident or excitor nerve. Had the spasm been a reflected action, we should have had the opposite extremity affected in a similar manner; and it would not have occurred till later in the disease. I merely mention this as being a curious and interesting circumstance, showing that the injury to a reflex nerve is more persistent, and less easily influenced by remedies, than an injury to an incident nerve.

3. *The treatment of traumatic tetanus.*—It is needless to say what a formidable and intractable disease it has always been found; but I believe that the ill success has in some measure resulted from not acting upon proper principles in the treatment. Look over the melancholy records of this affection, and what has been the treatment? Venesection, narcotics, antispasmodics, mercury, cold bath, warm bath, and a hundred other plans,—all given to affect the system *generally;* while the seat of irritation, the primum mobile of the disease, is entirely passed over, or receives only a secondary share of attention. I would suggest that such plan of treatment is most unphilosophical, and that the treatment should *begin* at the seat of irritation, to allay which should be our first and most strenuous effort. To show the inconsistency evinced in the treatment of this affection, I will call your attention to two cases, selected from others, put on record by an eminent member of our profession.

The first case had tetanic symptoms from irritating applications to a pustule on the knee. She had general remedies, and at last the tobacco injection to its full extent; the result was that she died. No mention is made of local applications, so I conclude that she had nothing but a poultice. The other case resulted from the anterior crural nerve being included in the ligature of the femoral artery after amputation. What was the treatment? Was she bled? Did she take belladonna, antimony, or mercury? Was the tobacco enema given till collapse was reduced?—No: the ligature was removed and the symptoms subsided. Why the treatment was local in the one case and not in the other I cannot tell.

In conclusion, I would remark that, in the treatment of the present case, all I claim is, that it is simple and rational. Is it not simple, to apply a soothing remedy to an irritated part? Is it not rational when a *morbid stimulus* is transmitted from one extremity to the spinal cord, to be reflected on the system at large, to trans a *sedative influence* to the spinal cord at the opposite extremity; a morbid stimulus from the left hand, and a sedative influence from the right, meeting at the same portion of the cord.

Dr. Nottingham remarked, upon the period of the occurrence of tetanic symptoms, that it was not until after he had been exposed to cold and wet in the rag warehouse. Tetanus after operations is more common in Paris than in this country, which he attributed to the care that is taken in the ventilation and warming of our hospital wards, which is not nearly so much observed in Paris. He had had an opportunity of dissecting the nerves of a black man who died of tetanus after an injury to the foot. The sheath of the posterior tibial nerve on the diseased side was congested, and the nerve itself had several swellings in its course, resembling in shape the dilated portions of the great sympathetic nerves. Chloroform had been given to this man with temporary relaxation of the tetanic state.

Dr. Nevins had administered chloroform in the only case of tetanus he had seen since its introduction, but it had not produced the slightest, even temporary relaxation.

Dr. Lancaster confirmed the importance of attending to temperature after operations or accidents by reference to the frequency of tetanus amongst negroes, compared with white men in the West Indies. During many years he had never seen a case of traumatic tetanus there amongst the whites, even after severe injuries; for they were always sent to some place where they were well cared for, whilst it was very common amongst the negroes, who occupy huts so slight as to be exposed to all the changes of temperature, which are very great between day and night—a remark which was corroborated by

Dr. Ramsay, from his experience in Brazil.

MEDICAL SOCIETY OF LONDON.

President—Dr. Murphy.

April 26, 1851.

Dr. Ogier Ward read a paper upon

Venous Murmurs.

The author began by mentioning the discovery of the sound by Laennec, who, though he had a suspicion that one kind of murmur resided in the jugular vein, yet was more disposed to attribute the venous sounds heard in the neck to the arteries, and to the bruit musculaire in the platysma and mastoid muscles. M. Bouillaud, who next took up the subject, having confined the origin of the murmurs solely to the arteries, Dr. Ogier Ward was induced to investigate the subject in 1836, and established it as an indisputable fact that the sounds in question were produced by the veins alone, though they were modified by the vicinity of the carotid arteries, as regards the internal jugular veins. These conclusions were afterwards confirmed by Dr. Hope, and by the Committee of the British Association, with a few unimportant exceptions, and they were generally admitted by British physiologists, though the French pathologists still adhered to their former opinion. However, in 1843 Maran published an elaborate paper on the subject, and induced his countrymen to yield to him an assent which they had hitherto denied to foreigners. From that time the venous origin of the murmurs has been gradually acknowledged in France, and on the Continent generally.

The author next described the cause of the sound as being the quicker flow through the veins of blood of abnormal tenuity; and the difference in the tone of the murmurs produced by pressure of the vessel, to the formation and acceleration of currents in different directions in the vein below the point of pressure. The difference in the sounds produced by shaking oil and water in a bottle is a familiar illustration of this fact, which has been also established by numerous experiments, from which the following law had been deduced—viz., that the increase in the sound is directly as the velocity, and inversely as the density of the fluid: whenever, therefore, the density of the blood is reduced below a certain standard—which, however, varies with the individual—venous murmur is the consequence.

Venous murmurs are of two kinds,—continuous and remittent; the former is heard in solitary veins, as the external jugular; the latter in the venæ comitantes, in which the sound is augmented and remits synchronously with the beat of the artery, which modifies the tone by its pressure on the vein. The external and internal jugular veins afford the best and readiest examples of the sounds, from the current of blood being quicker through them, in consequence of their ordinary perpendicular position; but the sound ceases in the horizontal posture, or if the head be lower than the body: on the other hand, the sound is increased, and its tone rises to what it called the "musical hum," by slight pressure of the stethoscope, by which the rapidity of the venous current is increased, and also during inspiration, from the influence of the same cause. In examining the murmurs care must be taken to avoid confounding the remittent venous sound with the intermittent bellows murmur that is often heard in the carotids.

All observers, both in this country and on the Continent, except the British Association Committee, concur in confining the existence of venous murmurs to persons of weak constitution, or to sufferers from disease or loss of blood. Hence it is met with universally in chlorotic and anæmic patients, whose blood is deficient in several of its constituents, but especially in red globules. In support of these points, quotations from the works of Bouillaud, Andral, and Gavaret, and Becquerel, and Rodier, and their analyses of the blood of such subjects, were given by the author.

Dr. Ogier Ward, however, having remarked the frequency of the venous murmur in children, whether anæmic or florid, was induced to make a number of observations upon them, and the result he has obtained is, that *all children, male or female, under the age of seven years, exhibit the venous murmur*. Above the age of seven or eight years it begins to cease in the boys, but in the girls it generally continues till after puberty and the establishment of menstruation, whether the person be pale or florid. The author has not been able yet to establish the average period of its cessation, either in boys or girls; but from the frequency of its occurrence in adult young women, he believes that a very slight derangement of the general health is sufficient to produce it in them. The greater proportion of water in the blood, both of children and females, he considers a satisfactory explanation of these facts. There is, however, so great a discrepancy in the analyses of the blood taken from such patients, that no exact limits can be assigned to the variations, consistent with the health of the individual, as determined by the presence or absence of the venous murmur.

From these statements it is evident that, with the exception of children, the existence of venous murmurs offers a pretty sure guide to the diagnosis and treatment of various diseases attended with a change in the condition of the blood. In the adult the author has never met with a case in which tonic remedies were not useful, especially iron, unless the patient laboured under some form of disease that counteracted its influence. The selection of the preparation of iron best adapted to the case must be guided by observation of the attendant symptoms.

From a wish not to occupy too much of the time of the Society, the author declined to enter upon the special applications of venous murmur to the diagnosis and treatment of disease.

SURGICAL SOCIETY, PARIS.

April 9, 1851.

Communication between the Brachial Artery at the bend of the Arm, and the Internal Collateral Vein.

M. LETENEUR, of Nantes, transmitted the particulars of the following case:—A man, aged sixty-five years, was bled from the arm, in February, 1850. The artery was wounded by the lancet. A bandage was applied, swelling of a part of the arm and forearm took place, which, however, subsided into a tumor of the size of a small apple. M. Leteneur saw the patient six weeks after the accident. Despite advice to the contrary, the man resumed his occupation; nevertheless the tumor decreased in size, and six months after the occurrence the cure appeared to be complete. M. Leteneur, however, detected a communication between the two vessels, and had ascertained that by the puncture both artery and vein had been pierced, forming a primitive false aneurism; that the effused blood having become coagulated at the seat of the wound had formed a secondary false aneurism, the cavity of which had gradually disappeared by contraction, and the deposit of layers of fibrin; that the median basilic vein having become detached from the artery by the coagula, had healed separately; that the tumor formed by the aneurismal pouch had completely disappeared; that there existed a simple communication between the artery and its collateral vein, the orifices of which had contracted adhesions, this communication having in a striking manner modified the size of the vessels, especially of the vein, which was greatly dilated, and continued to increase in size, so that it was difficult to foresee how the case would end.

Encysted Tumors of the Neck.

M. LEBERT read an interesting rep upon a paper by M. Richard. The rep in the first place presented a history these affections; then, with reference their classification, the reporter divid them into thyroidean and extra-thyroidea with regard to the etiology of the particu case mentioned in M. Richard's paper, author considered it to consist of a tra formation of a lymphatic ganglion, wh opinion, however, the reporter did admit as proved.

Pediculated Fungus of the Bladder.

M. Maisonneuve presented a specimen of this disease, removed from the body of an old man who had suffered from hæmaturia, pus in the urine, incessant desire to micturate, &c. A sound passed into the bladder could not detect anything. After death the right kidney presented numerous abscesses, the left kidney was atrophied; at the fundus of the bladder was found a soft bleeding tumor, of the size of a large nut, and attached to the mucous membrane by a very narrow neck.

ACADEMY OF SCIENCES, PARIS.

April 11, 1851.

The Modifying Influences exerted upon Animal Heat by various Therapeutic Agents.

MM. Dumeril, Demarquay, and Lecointe, transmitted a second essay on this subject, containing their researches upon the influence of purgatives and emetics in relation to animal heat. 1. Emetics. *Sulphate of Copper* lowered the temperature from 2° to 3·6°. *Tartar Emetic* caused an elevation to about 0·6 of a degree; in large doses, however, a depression of the thermometer occurred. With *Ipecacuanha* the phenomena were reversed. 2. Purgatives. *Croton Oil*, *Gamboge*, and *Colocynth*, in moderate doses, produced a depression, followed by an elevation of temperature, but in poisonous doses the depressing effect was continuous.

Analysis of the Blood with reference to Respiration and Nutrition.

M. Clement, of the school at Alfort, communicated the results of his researches, —*scil:* The lung is the seat of a true combustion. Albumen is the substance which is there burnt, and which yields a part of its carbon and hydrogen to the oxygen of the air. The products of this combustion are water, carbonic acid, and fibrin, or modified albumen. The water thus produced passes into the arterial blood, as does also the carbonic acid, to enter into chemical combination throughout the system. The coloured globules acquire oxygen in the lungs. The fibrin of arterial blood is again consumed in the tissues: carbonic acid is the only free acid that the blood contains. The nitrogen and oxygen of the solid textures become dissolved by the interstitial changes, and so pass into the blood. The coloured globules hold the albumen in solution.

Hospital and Infirmary Reports.

ST. GEORGE'S HOSPITAL.

Reported by Dr. Barclay,
Medical Registrar.

Partial Peritonitis.

The accompanying case offers points of considerable interest, although it throws no new light on the treatment of peritonitis. The origin of the attack was extremely obscure, the course of the disease was unusual, and the symptoms, although pointing to peritonitis in the main, were yet different in very many important particulars from those ordinarily met with, and would have justified the conclusion which was proved by examination after death, that the inflammation of the serous membrane was comparatively local and limited. The most obscure part of the inquiry was in how far there was coincident inflammation, and perhaps ulceration, of the mucous membrane of the intestine, because such a circumstance must have an important bearing on the treatment. The absence of diarrhœa in the early stage, and the persistence of a thick creamy fur on the tongue, seemed to negative ulceration in the commencement; but this was not so towards the end, when the mouth became aphthous and ulcerated, and the bowels were relaxed, with dark offensive motions. The coating of the tongue was remarkable both for its thickness and its persistence, and probably was more or less nearly connected with the persistent, and in some measure subacute, inflammation of both the internal and the external surface of the intestinal tube. In the progress of the disease, the symptoms pointed very evidently to the formation of matter somewhere in the peritoneal cavity; but instead of forming at the hard and tender spot in the centre of the abdomen, it was found deep in the basin of the pelvis; and at the other point, a simple spot of circumscribed inflammation, with adhesion to the parietes of the abdomen, was alone discovered.

Was the non-appearance of the menstrual discharge in any way connected with the disease? It may be suggested, in answer to this question, that there are two forms of inflammation which very frequently arise out of conditions connected with the puerperal state—viz. peritonitis and phlebitis; and of these two, the statistics of hospital practice shew that idiopathic phlebitis, independent of childbirth, occurs, in by far the greater number of instances, among females in whom the menstrual periods are irregular or entirely absent. Analogy may lead us to anticipate that the same may be true of peritonitis. In the year just past, 1850, the medical practice of St. George's Hospital affords only four examples of idiopathic peritonitis, which were all of limited extent, and ended in recovery; and it is remarkable that three of these were young women of the ages of 20, 21, and 24, respectively. In two of them the menstrual functions were deranged, and the condition of the body anæmic; while the third, though married for twelve or eighteen months, had not become pregnant. In her case there was a discharge of pus by stool in the course of the third week, after which she rapidly got well. The fourth case was a man of 42, in whom the progress of the disease was very insidious, and the symptoms obscure. There is also recorded an instance in which abscess had formed before admission, from inflammation commencing about a fortnight after childbirth.

In the previous year, 1849, two of a local character occur at periods more or less remote from delivery, terminating, as did the last, in the formation of abscess. Four others, of limited extent, occur in females from 26 to 39 years of age; but in one only is the state of the menstrual functions recorded, and in that case there was great irregularity. Three instances of peritonitis occur among males: one, a boy of 12, where there was suspicion of tubercles; another, a lad of 16, who was reported to have had a severe fall, and died almost immediately after admission; a third, a man of 52, in whom, as well as in the lad just mentioned, post-mortem examination failed to detect any cause for its occurrence. In all other instances, morbid growths in the cavity, or ulceration of the stomach or bowels, seem to have been the exciting causes of the peritoneal inflammation.

Emma D——, æt. 16, admitted into St. George's Hospital, under the care of Dr. Bence Jones, on 24th January, 1851. The catamenia had never appeared, and to this her friends attributed the pain in the lower part of the abdomen, which had in the first instance attacked her about a month ago, together with considerable distension; both having, however, subsided in the course of a few days. A fortnight later pain returned in the same situation, and she continued to suffer from it more or less until the 21st instant; it had been accompanied by severe headache, but she had been able to continue at work. On that morning she had a severe rigor, lasting for a couple of hours, followed by diarrhœa and great aggravation of the pain. She had another severe rigor last night. Her face is full, especially the lips, and a good deal flushed, with an anxious expression. Skin cool; pulse 140, feeble, small, and rather jerking. Tongue very coated, and rather dry; much thirst; no appetite. Bowels have acted once to-day; stool watery; urine scanty. Abdomen generally swollen and tense, but most resistant in the right iliac region. No tumor, however, can be felt. It is extremely tender, the very slightest touch giving pain; everywhere resonant.

She is ordered to have twelve leeches applied to the abdomen, and afterwards hot fomentations, and to take three grains of grey powder, and two grains of Dover's powder, every six hours.

25th.—She has passed a very restless night, scarcely sleeping at all, from the severity of the pain. The leeches gave only very temporary relief. The abdomen is perhaps rather less swollen, but is still extremely tender; aspect oppressed and anxious; pupils dilated; no headache; tongue exceedingly coated and dry; is very thirsty; bowels have acted three times this morning; motions are loose and ochry; she has vomited once or twice.—The fomentations are to be continued, and she is to take three grains of grey powder, and a quarter of a grain of opium, every three hours; and to have a draught, with hydrocyanic acid, if the vomiting continue.

26th.—No sleep; bowels have not acted; pulse 110, very small; abdomen more tense and tender; again sick.—The opium is directed to be increased to half a grain in each dose, and she is to have a morphia draught at night. Sixteen leeches are to be applied to the abdomen, and the hot fomentations to be continued.

27th. — Still complains very much of pain, which was temporarily relieved by the leeches. Face is a good deal flushed, but has not a very anxious expression. She moves about a good deal in bed, and has not the extreme tenderness of the abdomen of a person labouring under general peritonitis. The pulse is 110, and softer; it has at no time been hard or wiry. She did not sleep last night, only dosing a little at times, and perspired very freely. The skin is now warm and moist. The tongue is slightly moist, but has a very thick adherent fur. She was again sick last night, but relieved by hydrocyanic acid. The gums begin to be a little tender.—Ordered to have the leeches again applied, to continue the fomentations, and to have two grains of grey powder, and one grain of opium, every six hours. The morphia to be repeated to-night, if necessary.

29th.—She was attacked by diarrhœa yesterday. Motions were watery, but contained solid lumps of fæculent matter. To-day the stools are still frequent and watery, but without lumps. She was very restless last night, perspired freely, and the pain of the abdomen is now aggravated. She lies with her legs drawn up; the breathing is hurried; pulse 120, very small; tongue exactly as before. The skin is cool; urine free; no headache; mouth more sore.—The leeches to be repeated; to take two grains of opium three times a-day; to have a starch enema at once, and to continue the fomentations.

31st.—Has been suffering from hiccough for the last two days. The bowels continue very relaxed, but the pain is easier; her aspect is better, and expression less anxious; pulse very soft; tongue continues as before. She wishes to have something to eat, having been allowed nothing but milk and beef-tea.—To continue the treatment, and to have a starch injection at night.

Feb. 3d.—She is at present asleep; has had one or two pretty good nights, and can lie pretty straight in bed; she generally sleeps partly turned over to the right side, and never inclines to the left. She has had no sickness or hiccough since last report, but the bowels have continued relaxed; they acted three times during the night, but have not been open since. A starch injection was administered this morning. She has been asking for fish; her aspect is, on the whole, much improved.—To continue the treatment.

6th.—She has had some sickness this morning, and has now more pain in the abdomen. The bowels have only acted once to-day; but she says that the pain is aggravated both by defecation and micturition; it is now mostly on the left side, extending from thence towards the hypogastric region.

8th.—The pain became again very severe on the evening of the 6th, with vomiting of dark green fluid, and hiccough: the bowels were also much relaxed, in consequence of which eight leeches were again applied yesterday to the abdomen, after which poppy fomentations were used, and a starch injection was directed to be administered immediately, containing half a fluidrachm of laudanum, and to be repeated at night if necessary. She was also ordered to have half a grain of morphia every six hours, instead of the opium. Still the bowels continued rather loose. She has passed a very bad night, suffering frequently from hiccough, and vomiting almost constantly. Her features are pinched, and she rolls her eyes about. Pulse is less frequent, feeble, but inclined to be hard. Tongue covered with thick yellow fur. She had a shivering fit this morning. Pain in passing water continues.—To continue the morphia, and to repeat the injection to-night.

10th.—The bowels are now quieter, and the sickness has been checked by the hydrocyanic acid draught, which was again ordered yesterday. The motions, however, are still watery, dark-coloured, and very offensive. There is now a circumscribed flush on the cheek, and there is a spot on a level with the umbilicus, and to its left side, where there is some hardness, and much greater tenderness than elsewhere.—Eight leeches are to be applied to this spot, and she is to continue the morphia.

12th.—Bowels quieter; tongue still very coated; rather more pain to-day.—To continue the fomentations and pills.

15th.—Face less anxious; bowels open three times to-day; motions less offensive. The pain still recurs very severely at intervals. The morphia was yesterday ordered to be repeated every four hours.

17th.—Not so well again. Pain is more severe, but still, she says, it is not nearly so severe as it was at first, and is much more confined to one spot. The tongue continues to have the same appearance. A small blister is to be applied over the painful spot.—She is to continue the morphia and grey powder.

21st.—She has suffered more pain again yesterday and to-day; there is more hardness at the same spot in the abdomen.

26th.—She seems to have rallied considerably; feels much better, and has been taking more fluid nourishment for some days. A poultice has been applied to the upper part of the abdomen, and she is now wishing for more food, and is also thirsty, feeling rather faint.—An egg to be allowed in addition to her fluid nourishment, and to continue the treatment.

March 1st.—Not so well; has had more pain; skin hot and dry. Constantly lying on right side, with legs drawn up; tongue still coated; bowels occasionally relaxed; motions offensive; pulse 130; lips pale; countenance anxious.

6th.—The grey powder has been left off in consequence of sore-throat. The tongue is now very aphthous, and she has some difficulty in swallowing; she is drowsy and moaning, and complains of feeling sore about the loins . She is gradually emaciating, and losing strength daily.—She is to be placed on a water-bed, and to use the honey of borax gargle. Yesterday a grain of opium was ordered three times a day; and on the 7th she was ordered six ounces of wine.

10th.—For the last two days the bowels have been relaxed, and very offensive motions have been passing under her in bed unconsciously. She is very low and weak; the voice is almost lost in a whisper. The hardness of the abdomen, where the poultice was applied, has quite disappeared. From this time she continued gradually sinking, becoming latterly unable to take either nourishment or medicine of any sort, and at length died on the 17th of March.

Post-mortem examination 12 *hours after death.* Conducted by Dr. OGLE.

External appearances.—The body greatly emaciated; the surface particularly exsanguine. Numbers of purpurous-looking spots on chest, arms, and abdomen.

Abdomen.—There was a very small quantity of turbid fluid in the abdominal cavity. The surface of the small intestines was of a dirty grey and greenish colour; in some parts, with much dark-coloured vascularity. The omentum was devoid of fat, and adherent to the parietes of the abdomen in one or two places. The small intestine, chiefly at its lower portions, was found adherent to the parietes of the cavity, and to itself; and at these parts, on severing the connections, various ulcerations were discovered; some opening from one portion of intestine to another. Some of these adhesions extended to three or four inches, forming a kind of double tube; they existed, for the most part, in the right and left iliac regions. The small intestine was also adherent to the posterior aspect of the bladder; and in one of the adhesions to the abdominal parietes was a quantity of dark fœtid purulent fluid. In the lower part of the colon there were also ulcerations perforating the intestine, and only obviated by the adhesion of other viscera. Some of them were of large size, and one was in connection with the posterior surface of the uterus, which thus formed one of the boundaries of an abscess, as it were, having a dark, red, shaggy surface. The intestine was with difficulty separated. All the ulcerations had dark, red, and swollen margins. On examining the internal surface of the intestines, the upper part of the ileum was apparently healthy for about two feet; beyond that it assumed various shades of dark red colour, and numerous ulcerations and perforations existed, the muscular coat being in some places denuded, both on its mucous and peritoneal surface. The lower part of the colon also contained ulcerations; and one in the rectum, behind the uterus, was of the size of half-a-crown. The lower part of the rectum was of a very dark red colour, but free from ulceration. The uterus was covered posteriorly by lymph, the peritoneum being very rough and congested. The Fallopian tubes were contracted, hardened, and twisted on themselves, and closely adherent to the ovaries, which were much congested. The uterus was itself healthy, but the os was congested, and denuded of epithelium.

Thorax.—In the left pleural cavity were several strong adhesions, binding the lung to the diaphragm and the parietes of the chest; this lung was much smaller than the right. Both were much congested, especially at their lower parts, with portions of a darkish brown colour. One portion of the lower lobe of the right lung was solidified, and of a grey colour. There was much mucus in the bronchial tubes, which were red and vascular. The heart was healthy, with fibrinous clots on the right side chiefly.

HÔTEL DIEU.

Uterine Hæmorrhage in Young Women.

Under the care of M. CHOMEL.

THE opinion of M. Chomel on any point of practical medicine possesses sufficient interest to justify the reproduction of a clinical lecture on uterine hæmorrhage, by that physician.

As an instance of simple hæmorrhage, M. Chomel referred to the case of a young woman, twenty-two years of age, who, in the early period of pregnancy, after severe pains in the abdomen, was attacked with hæmorrhage. When first examined by the touch, the os uteri was found sufficiently open to admit the point of a finger, which came in contact with a soft spongy mass. Forty-eight hours afterwards, under the combined influence of exertion and a full dose of ergot, this mass was expelled from the uterus and entered the vagina, whence it was readily removed, and found to be an ovum.

This case offered no difficulty in its diagnosis, but it is often otherwise. In young unmarried women the diagnosis is frequently beset with difficulties which the most consummate experience cannot always overcome. As a general rule, whenever a medical man is consulted with reference to uterine hæmorrhage in a young woman, he should always suspect pregnancy. This rule is more applicable in those ranks of society where the mother has not always the opportunity of exercising a rigorous surveillance over her children; and it is further strengthened by the fact, that the hæmorrhage is always preceded by suppression of the catamenia. It must not, however, be forgotten that this rule may be made too absolute, as hæmorrhage, independent of pregnancy, may occur in girls of sixteen years of age. M. Chomel met with a case in which it occurred in a girl of eleven years old, and resisted all ordinary treatment, yielding only to cauterization of the cervix.

The second example of uterine hæmorrhage, under M. Chomel's care, presented some difficulty of diagnosis. The patient was nineteen years of age, and the hæmorrhage had not been preceded by any irregularity of menstruation. It had occurred three weeks after the last period, and was accompanied with the expulsion of coagula. To what, then, was it due? Was it owing to a spontaneous or provoked abortion? The patient asserted that she had not been pregnant, and therefore could not have produced abortion. But the declarations of women cannot always be received on this point. The patient was not a virgin. The os uteri was sufficiently open to receive the end of the finger; there were, therefore, presumptions in favour of pregnancy and abortion: they did not, however, excite suspicions.

M. Chomel, in the next place, referred to those hæmorrhages which occur frequently, and with profuseness, offering considerable cause of alarm to the medical attendant. These are usually referred to cancer or polypus, but there is another source, scarcely less dangerous, *e. g.* an excessive development of the vascular system of the cervix uteri, and even of the fundus.

A woman, aged thirty-four years, had been recently admitted, in whom M. Chomel suspected the existence of this morbid condition. This patient had suffered for four months from a constant sauguineous discharge, attended occasionally with the expulsion of coagula. On one occasion she lost not less than a pint and a half of blood in the course of half an hour. She has not, however, experienced the pains usually attendant on uterine disease, especially of a cancerous character. Vaginal examination by the touch detected no disease of the os or cervix uteri; there was no indication of cancer, neither were there any signs of pregnancy. Thus two hypotheses remained; either that the case was one of fibrous tumor, or of excessive vascular development of the neck.

M. Chomel proceeded to consider these two forms of disease. Fibrous growths, he observed, are always difficult of diagnosis. If developed from the internal surface, they generally exhibited a tendency to protrude from the cavity. They become covered with a special coat, and are soon attached to the organ merely by a pedicle; later still, the pedicle elongates, the fibrous body becomes engaged in the cervix, and may be thence spontaneously detached. The touch and the speculum allow of the verification of the disease at this stage. In other cases, the disease, originating nearer the external surface, tends outwardly by a reversed order of the same process of development; the fibrous body may thus become detached and move freely in the abdominal cavity. The presence of one or more of such growths may produce effusion in the peritoneal cavity.

A case of this kind is mentioned by Frank, which led to an error in diagnosis, —a woman, having a fibrous tumor, of considerable size, floating loose in the effused fluid of the peritoneum: this gave, when felt through the abdominal walls, a sensation similar to that of the ballottement of pregnancy. The medical attendant arrived at the conclusion that she was pregnant, and as she was at the moment dying from phthisis, he advised the Cæsarean operation immediately after her death. The autopsy convinced him of his somewhat excusable(?) error.

When, however, the fibrous tumor continues imbedded in the substance of the uterus, the diagnosis becomes still more difficult. The presence of these growths can only be suspected by the concurrence of all the rational symptoms, among which hæmorrhage is one of the most important.

The last cause of hæmorrhage to which M. Chomel referred, was the excessive vascular development of the neck. This condition is little known, has not been described, and is often confounded with ulceration of the cervix. The os and cervix are soft and spongy to the touch, and by the speculum are seen to be of a bright red colour, without any excoriation. To the experienced practitioner there is no difficulty in recognising these indications when they are attended with the frequent losses of blood referred to above. Repeated cauterization has been found by M. Chomel to be the most efficient treatment. This means had succeeded in the most chronic and inveterate cases that M. Chomel had met with. M. Chomel gives the preference to the solid nitrate of silver, or *lapis infernalis (potassa cum calce)*, over the acid nitrate of mercury, or the hot iron, as being more safely applied, with reference to adjacent parts, because more strictly confineable to the parts which are to be touched by it.

CONTRACTIONS OF THE SPLEEN.

M. Wagner states that he has observed evident contractions taking place in the spleens of cats and dogs, under the influence of galvanism. Certain portions became pale and elevated, forming a contrast with the surrounding structure of the organ.—*L'Union Médicale*, 1851. X

Correspondence.

RESUSCITATION AT BIRTH. BY SAMUEL THOMSON, M.D., LATE ASSISTANT STATISTICIAN TO THE ROYAL INFIRMARY OF EDINBURGH.

SUNDAY, April 20.—At 1 A.M. I was called to attend a poor woman in labour at Mowbrows, whom I had never before heard of. On asking the messenger (her husband) the reason of his coming in this way, I was told that his wife had been prepared to call a midwife, but that, finding, as her time approached, something peculiar in her present case, she had preferred at once having the succour of one of the faculty. Proceeding immediately to the woman, I learned that what she had found amiss was pain of some weeks' duration in the right hypochondrium, and a difference of shape from that of any of her former gravitudes. The os uteri was flaccid, and dilated as ordinary at the end of the first stage of labour. The first part felt was the cord, and beside it an extremity, but whether a hand or foot I could not ascertain, from the resistance of the yet unemptied membranes. Towards the right brim of the pelvis, and looking to these presentations, a forehead was felt just by. As she had been afflicted with pains all the previous day, and as these did not promise to become soon efficient, and further, as the woman's strength was beginning to fail, I pierced the bag of waters, tore up the tough membranes, pushed the cord out of the way, and brought down two feet which lay at hand, so that the delivery was soon effected as far as the neck. Here, however, a delay of many minutes occurred for the evolution and exclusion of the head, so that the infant, which had previously given me good proofs of its vigour, was born dead to all appearance, but the heart could be felt very distinctly in motion. To slapping, blowing on the face, sprinkling with water, and pungent stimulation of the nostrils, it remained quite insensible,—the eyes shut, the lips livid, and the whole appearance so inanimate, that bystanders called upon me to leave it alone, for dead that it was, and ever would be. I called for brandy, but there was nothing of that sort to be had; hot water, there was none either; but, in the meantime, I put my female catheter in the child's mouth, and, closing nose and mouth as well as I could, blew, so as in a little time to inflate the chest. The parietes being now pressed, frothy mucus issued from the lips and nostrils; but it was not till after several of these trials, that, thinking I heard a faint sob or respiration, I placed the body in a basin of warm water, which was now ready; and I soon began to observe slight gasps very slowly repeated. Just at this time, however, the mother requested my attention, as she was conscious of something descending; and proceeding, therefore, to dispose of the navel string, which was pulseless, I found a second little girl born footways as far as the hips, who very soon passed into the world with all the usual symptoms of vitality. Returning to my first charge, whom I had put aside for the moment, gasping, drooping, and powerless, in the basin of water, I felt a painful compunction in regarding the miserable object which I had officiously striven to recall, in order that it might taste again, as it seemed, the distresses of imminent death. But yet, with some further care, as plunging from hot into cold water, and other means, the vital machine gradually acquired more steadiness and independence; and about an hour after birth, as I touched it, warmly wrapt up in a cradle, it opened its eyes, and gave at last that peculiar cry which has ever been heard at the entrance of human life.

Wednesday, 23d. — The mother and twins are going on well. I ought to have mentioned that a slight scratch on the scalp, given in penetrating the ill-distended membranes, made it evident that the head presenting with the feet and cord was that of the child first delivered.

Radcliffe, Lancashire, April 1851.

Medical Intelligence.

CAUSES OF DEATH AMONG PERSONS WHOSE LIVES HAVE BEEN ASSURED.

AT a late meeting of the Edinburgh Standard Life Assurance Company, Dr. Christison gave an interesting statistical summary of the causes of death among the assured during the last five years. It appears that the total deaths during this period were 297, but six must be deducted, as having been special assurances, or for other reasons. The remaining 291 deaths are arranged nearly according to the method of the Registrar-General in London, and with only one important deviation. Deaths by consumption have been removed from the class of diseases of the chest, and arranged, with a few others, under the head of Death from Diseases of Depraved Constitutional Habit. For it is most important that all diseases of that nature shall be kept carefully in view by assurance companies, since they constitute the principal denomination of diseases which a skilful examination of those proposing assurance may enable the Directors to foresee and avoid. The first head is Gradual Decay, which accounts for only 12 deaths. Assurance companies are in the custom of congratulating themselves when this head is a large one, on the assumption that it indicates many deaths in old age; but this is a mistake. Few old persons die of gradual decay without specific disease: old age has its diseases as well as youth. Directors should know these; and they may depend upon it, that, when many deaths are returned as the result of gradual decay, this is merely a proof that the returns are made carelessly or ignorantly. He would rather congratulate the Company, then, on the deaths from this cause being so small, as affording proof that the real causes have in general been thoroughly ascertained; and he would like to see them fewer still, especially as a life which drops from what is called gradual decay by no means always does so to the advantage of the Company. The next head—Death from Fever, Malignant Cholera, Scarlet Fever, and other Epidemic and Infectious Diseases—is a numerous one in this list, because, as every one knows, Scotland and Ireland in particular have been visited, during the last five years, by a severe epidemic of cholera, and a much worse one of typhus fever. No fewer than 67 have died of diseases of this class, and 55 of them from typhus and cholera alone. These 55 may be considered in a great measure as an extra loss; for, in all probability, proper sanitary measures would have prevented them. This is a very important matter for the consideration of all assurance companies; for, contrary to what has been thought by many, typhus and cholera do not seem in all epidemics to attack chiefly the feeble and unsound, so as merely to cut off a little sooner those who would perish at any rate at no distant period by ordinary disease at large; at least, it is found that a very large proportion of deaths from these diseases in the Company's list—no less than 17 out of 20 deaths from cholera, and nearly the same proportion among those from fever—have occurred among what would undoubtedly be considered by every one as select lives. Another serious consideration is, that most deaths from these causes occur early in life, and consequently, in general, very soon after assurance is effected; and further, these are diseases which no care on the part of directors or their medical referees can foresee and guard against. The head of Diseases of the Brain and Nerves is always a large one with every assurance company, and amounts in this list to 54, or 18½ per cent. of the whole deaths. This result corresponds closely with what was obtained some years ago by Dr. Begbie in an investigation into the causes of death among those assured in the Scottish Widows' Society. According to the number found by Dr. Begbie, the number of deaths from diseases of the brain and nerves in this Company's list should have been 60. The same close approximation occurs on most other points, showing how similar are the results when different Companies proceed upon the same general principles of selection. Diseases of the chest, excluding consumption, account for 38 deaths. According to the number in Dr. Begbie's list, it should have been 36. Diseases of the circulation embrace 25 deaths. Diseases of the organs of digestion account for 34, which is no great number, considering that, during the period of investigation, dysentery has been epidemic both in Scotland and Ireland: in fact, only 11 deaths have been owing to that disease. Only 8 deaths are ascribed to diseases of the urinary and generative organs; but the greater number of the cases of death from dropsy, have been arranged under the head of diseases of an uncertain seat—since dropsy is seldom, properly speaking, a disease, but merely a symptom of various organic diseases—they must be held to belong to the present head, as probably depending upon disease of the kidneys. The only other important head is that of death from diseases of depraved constitutional habit: this amounts to 34, and ought to be larger, for many of the cases of death from diseases of the stomach, and probably some of those from diseases of other organs, as they arise from what are called in medicine malignant diseases, ought to be arranged in the same section. Of the 34 deaths, 29 arose from consumption—a small proportion, certainly, of the total deaths, and owing, probably, to the more minute information which, for some years past, the directors have made a point of obtaining as to the family history of those proposing assurance. Diseases of uncertain seat amount to 12; and the list closes with nine of what may be called accidental deaths.

KING'S COLLEGE ANNUAL MEETING.

The Twentieth Annual Meeting of the proprietors and patrons of this Institution was held on Tuesday last in the Lecture-Hall of the College; the Right Rev. the Bishop of Lichfield in the chair.

The report of the Council congratulated the proprietors that the past year had furnished increased evidence of the high character of the Institution. The number of students who had attended the various classes in the medical school was 196; occasional students, 27. The Council again noticed the imperfect accommodation afforded by the present Hospital, and the steadily increasing number of patients, last year's returns showing an increase of 3,167 upon those of 1849. The fund for the erection of the New Hospital now amounted to £33,320. 5s. 9d., leaving a further sum of £16,769. 14s. 3d. to be collected. The Council had purchased the site of the proposed building, and had also been obliged to go before Parliament to enable them to exercise certain powers. It was also intended to incorporate the President, Vice-Presidents, Committee, &c. The Council regretted that the income of the College by no means kept pace with the increasing demand upon it, and the difficulty was augmented by the fact that the expenses of building, repairing, &c., were chargeable upon the income. The gross amount paid in this manner out of income amounted to £165,584. 3s. 8d., including £4,000 still due to the New Hospital. To meet this large outlay the Council had received from shares £68,356, and from donations £65,502. 12s. 4d., giving a total of £133,858. 12s. 4d., and leaving a deficit chargeable upon the ordinary income of £31,725. The Council had, however, to congratulate the proprietors that in the twenty years of the existence of the College they had been enabled to reduce their liabilities to £13,398. 4s. 3d. The gross income amounted during the year to £41,327, and the expenditure to £41,023.

The report was received, and the officers for the year were re-elected.

The meeting then adjourned to the large hall, where, in the presence of an immense assemblage, the prizes were distributed to the students of the medical school.

Professor Guy, the dean, read a short report of the condition of the medical school, which he described as highly satisfactory. The conduct and attendance of the pupils left no ground for complaint.

PAUPER LUNATICS IN SCOTLAND.

The total number of pauper lunatics in Scotland on the first day of the present year was, according to a return just published, 3,362, and the total annual cost for their maintenance was £44,023. 1s. 3d.; making the average cost per head £13. 10s. 10½d.

MEDICAL APPOINTMENTS.

At a General Meeting of the Governors and Subscribers to the Nottingham General Hospital, on the 24th April, Dr. Gill was elected Physician, on the resignation of Dr. Williams; and Dr. Thomas Wright was elected Surgeon, on the resignation of Mr. Henry Attenburrow.

NOTTINGHAM COUNTY GAOL.

At the adjourned Sessions held at the County Hall, on the 26th April, Dr. Massey was appointed by the Maigstrates, Surgeon to the Nottingham County Gaol, in the place of Mr. Henry Attenburrow, who has resigned.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 25th ult.:—Messrs. J. E. Tuson—T. H. Taylor—H. J. Walker—J. Turle—H. Osborn—F. P. Cupiss—J. T. H. Dunn—H. Crocker.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, April 26.

Births.		Deaths.	
Males....	771	Males....	569
Females..	732	Females..	506
	1503		1075

Causes of Death.

All Causes	1075
Specified Causes	1057
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	232
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	40
2. Brain, Spinal Marrow, Nerves, and Senses	131
4. Heart and Bloodvessels	26
5. Lungs and organs of Respiration	197
6. Stomach, Liver, &c.	61
7. Diseases of the Kidneys, &c.	12
8. Childbirth, Diseases of Uterus, &c.	12
9. Rheumatism, Diseases of Bones, Joints, &c.	10
10. Skin	2
11. Premature Birth	29
12. Old Age	45
13. Sudden Deaths	7
14. Violence, Privation, Cold, &c.	22

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	9	Convulsions	44
Measles	67	Bronchitis	73
Scarlatina	10	Pneumonia	90
Hooping-cough	66	Phthisis	139
Diarrhœa	21	Lungs	8
Cholera	0	Teething	15
Typhus	32	Stomach	5
Dropsy	19	Liver	8
Hydrocephalus	30		
Apoplexy	19	Childbirth	7
Paralysis	23	Uterus	4

Remarks.—The total number of deaths was 172 *above* the average mortality of the 17th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·54
" " " Thermometer[a] ...... 49·9
Self-registering do.[b] .... Max. 85° Min. 24°
[a] From 12 observations daily. [b] Sun.

Rain, in inches, 1·32.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 5° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

F. R. H.—The question is one of ecclesiastical law, and should be put to a proctor or an advocate.

Dr. S. Thomson should order a copy of the journal through a bookseller.

We are obliged to Mr. D. Wyatt for the ticket. The injunctions shall be observed.

Dr. S. T. Speer's contribution on Pulmonary Consumption shall be inserted.

Various communications, including the first paper of Mr. Smith, of Belper, are unavoidably postponed.

Lectures.

THE GULSTONIAN LECTURES
For 1851.

Delivered at the Royal College of Physicians.

By Edward Latham Ormerod, M.D.,
Caius College, Cambridge; Physician to the Brighton Dispensary.

Lecture III.—Part II.

IV. SYMPTOMS AND TREATMENT OF VALVULAR DISEASE OF THE HEART (continued).

Cardiac dropsy: effusion from inflammation, from venous obstruction—Principles of treatment—Influence of rest on the heart's action—Use of purgatives, diuretics. Complications of dropsy, mortification, erysipelas; may occur without dropsy.

Effects of valvular disease on the action of the heart—Palpitation—Failure of the heart—Effects of a shock on the healthy, on the diseased organ.

Modes of death from valvular disease. Conclusion.

IV. *Cardiac dropsy.*—Under this name I would class only the effusions of fluid which occur in the serous cavities, or the general areolar tissue, in connection with valvular disease; though the distinction which would exclude œdema of organs, and notably serous apoplexy of the brain, from this category, is rather convenient than pathologically accurate. On the same plea of convenience, however, we may group with general dropsy the various gangrenous or erysipelatous inflammations of the integuments, which commonly arise from it, and last, though not least, complete the sad catalogue of the secondary consequences of valvular disease of the heart. On what causes does this class of secondary affections depend, and what can we do for their relief?

The history of patients suffering from dropsical effusions in connection with valvular disease commonly speaks of exposure to cold, or distress, or of unusual exertion. Instead of laying any great stress on the statements of patients for the most part very incompetent to observe their own symptoms, we may simply refer these, in the present instance, to the two heads of inflammation and venous obstruction respectively.

The effects of inflammation under these circumstances are shown, perhaps, most commonly by effusion into the general areolar tissue, rather than into the serous cavities. On neither of these, however, is it necessary to dwell here; for the facts and appearances, in the first class of cases, will of themselves explain the relation which the inflammation bears to the exudation—namely, whether it be cause or effect. And as to the second, the comparative rarity of the occurrence, under these circumstances, of inflammatory effusion into the serous cavities, to any large amount, forbids any lengthened notice of this form of disease. But the possibility of the last occurrence should at least be borne in mind; for this, may sometimes throw a more favourable light on particular cases, allowing us to interpret their more distressing symptoms of pain and dyspnœa, not as the physical effect of an irremediable organic disease, but as signs of a present action which it is in our power to control by careful antiphlogistic treatment. Such cases, however, are exceptions to the general rule; effusion, in the majority of these cases, depending on obstruction rather than on inflammation.*

It might seem, at first sight, that with the statement that the remaining cases of cardiac dropsy were dependent on mechanical causes, and these, so far as concerns us at present, essentially irremediable, the subject was exhausted. Not so. It does not, indeed, admit of a systematic examination of the details within the present limits: and as to the general principles, we have already considered the influence of one or other side of the heart in the production of cardiac dropsy. But, taking up the subject a little further on, and speaking of the removal of the dropsy, rather than of its accession, as being the rather a matter of clinical inquiry, here is a field in which each observation of less absolute importance may find its proper place. The general principles of treatment of this affection,—nor of this affection only, but applicable alike to all the other forms of secondary complications of valvular disease,—will well repay attention. For, indeed, they are general principles which are required here. There are fewer lucky hits made by guess-work in cardiac than in other dropsy.

The first thing to be done is to set the patient, and so his heart, at rest,—the most simple, and yet the most effectual means in our power, for his relief. The influence of

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* With regard to the chemistry of this subject, it is hardly too much to say that it is almost wholly unknown. I am not aware of any other source of exact information than Andral's sixteen cases analysed in his Essai d'Hématologie pathologique, Bruxelles, p. 136-8. Yet dropsical effusion is a subject in which we have a right to look for information from organic chemistry.

Vogel (Path. Anat. by Dr. Day, p. 37-43) gives references to different authors who have treated on this subject. I have not been able to refer to these authors, but, judging from his own expressions, the chemical part—the relation, namely, of the effused fluid to the serum of the blood—remains as obscure as ever.

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simple rest may be beneficial in several ways. First, as the strength of the heart is accurately adjusted to the mean requirements of a day's work, by rest so much is directly saved; of exertion to the heart, if it be sound; of suffering, if the valves be imperfect, to the organs against which, under such circumstances, the pressure is made: and this, whatever be the mode of the heart's action. But the functions of the heart are more perfectly executed when the heart's action is quiet, than when it is morbidly excited: and the action of a diseased heart is, as a rule, more liable to be so excited, and from a less cause, than is that of a healthy heart. It follows that the effects of rest will be in such case, in that exact proportion, the more salutary.

The closure of the sigmoid valves is a simple matter enough; but for the perfect coaptation of the auriculo-ventricular valves during the whole period of the systole, much precision in the action of all the parts concerned is required. There can be no doubt what the effect of an imperfect coaptation would be; and I believe as little that such a condition would be induced by a very slight change in the relative degree and time of contraction of the different fibres of the heart's muscular walls.[*] That is to say, a very slight alteration of the rhythm of the heart's action in detail is quite a sufficient, and most probably the actual cause, of functional imperfection of the valves in many cases. The most effectual means in our power for correcting this alteration, and the consequent regurgitation, is rest.

We cannot, obviously, look to auscultation for absolute demonstration of the correctness of this explanation in the cases with which we have here to do. Neither can auscultation alone determine the degree, even, in which the heart's imperfections have been remedied, if so it should happen, by such means: for probably the murmur dependent on the organic lesion would become only the more audible when the rhythm of the heart was restored, and the superadded effects of this functional lesion were removed. We are to look for it in the quiet, steady action which has replaced the tumultuous palpitations, and in the patient's altered feelings. If we cannot hear it from his heart, we may often hear from his lips how much present ease he owes to the calming the action of his heart, to simple rest. Perfect rest is almost a necessary preliminary to our successful treatment of cardiac dropsy. It is at times all that is necessary, and supersedes all other treatment.

It might provoke a smile to refer to a period, not so many years past, when the expression *morbus cordis* shed a seeming of knowledge over a class of symptoms presumed to depend on disease of the heart, —to be, as such, essentially incurable, and therefore not to be likely to repay the trouble of a minute examination. And it would be superfluous to repeat here how these, the most unattractive cases, have become the most interesting, and how much has been learned from their study by which to discriminate the disease at an earlier period, and to prevent many of its consequences. There still remains much for us to do in palliating the effects of what we have not prevented, and which we cannot cure.

Speaking generally, as far as my own observation on this subject goes, greater and more permanent relief has been obtained from the use of purgatives than from any other means in cases of cardiac dropsy; and of these, the saline purgatives with senna, given every morning, or every other morning, as the patient could bear them, have seemed more useful than the occasional employment of more active means, such as elaterium. But this mode of treatment is rather adapted to those cases where the powers of the constitution are as yet little affected. It does not succeed so well, and is accompanied by considerable risk, in the more advanced cases. Here diuretics are a safer, though a less certain means of relief:[*] and of these, my own observation would induce me to prefer the nitrate of potash, assisted in the lesser details by what the circumstances of the case might suggest. Such are warm stimulant diuretics or purgatives exactly apportioned to the powers, and, what is equally important, to the habits of the patient. These supplementary matters are not beneath consideration; nothing which alleviates suffering can properly be so. A knowledge of, and a due regard to, the habits which have had a large share in inducing disease, may sometimes assist us in our attempts at its removal. Dropsy, with diseased heart and obstructed liver and kidneys, which has defied all the regular appliances of pharmacy, may yield to —gin.

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[*] Dr. Hope (op. cit. p. 392), quotes instances where the functional integrity of the heart was restored by simply loosening the tight dress which had impeded its action; though he adopts a different explanation of the production of the murmur to that in the text, and which the circumstances seem more naturally to suggest. Excluding the fallacies from coincident endocarditis, the mitral murmurs so often heard in chorea seem to me to fall under the same category of the results of an abnormal mode of contraction of the heart. And further illustrations will readily suggest themselves.

The disordered rhythm of the heart's contraction here spoken of must be distinguished from that irregular action which we may often find in patients who have, perhaps, no other symptoms of disease of the heart; and particularly in the subjects of pulmonary emphysema, irrespective, however, of the amount of this change. Perplexing as such a tumbling irregular heart is to the auscultator, the rhythm of its contraction, judged by the symptoms, has been disturbed in a much less serious manner than in the form of disease under consideration.

[*] Dr. Hope's experience led him to a somewhat different conclusion on this matter (Diseases of the Heart, p. 409). He puts diuretics in the first place, as being the remedies deserving the first trial; and speaks of purgatives only as the second alternative. Of these, too, he mentions elaterium with greater commendation than my own observations, in St. Bartholomew's Hospital or elsewhere, would seem to me to justify. Not that, as Dr. Hope remarks, the effects of elaterium are not at times truly asto-

Under such a very cautious plan of treatment, sometimes the present symptoms have been relieved, the effusion removed, and the patient, to all but the physician, has seemed to be quite well. Sometimes our rational attempts may be aided by a happy idiosyncrasy on the part of the patient. Perhaps one particular diuretic, such as the acetate of potash, may act again and again surprisingly well; and sometimes digitalis will succeed beyond all expectation; and this, I think, wholly irrespective of the particular preparation employed.[*] Iron, again, is a remedy which no one would neglect to employ in all cases where debility of the system at large was known to exist. But whatever may be the good obtained from iron in these cases, it is not in cardiac, as in renal dropsy, that iron does wonders.[†]

With whatsoever success this complication be treated, yet, after all, it is but a complication, and, considered abstractly and in itself, one of but secondary importance. For it is not ordinarily by effusion into the general areolar tissue or the serous cavities, by sheer exhaustion, or by obstruction to the functions of different organs, that cardiac dropsy destroys life. Much as the serous effusion may have to do with inducing the fatal termination, it is not commonly the immediate cause of that event, especially when occurring in the form of anasarca. Extensive œdema cannot long exist under these circumstances without giving rise to excoriations, whose results tend more directly, by pain and loss of sleep, and by local action, to destroy life.[*] It remains to consider these, the associate complications of cardiac dropsy.

Mortification,[†] as a consequence of valvular disease of the heart, most commonly ensues upon the erysipelatous inflammation to which anasarca gives rise, and is limited to the integuments and the parts immediately subjacent. The ordinary course of events, under such circumstances, is but too familiar to daily experience. I would therefore pass over these, and dwell rather on some forms of disease which fall less frequently under observation.

In some cases of valvular disease of the heart, the mortification, which usually begins in, or is limited to, the integuments, implicates the deeper structures. My own observation furnishes a single instance of this very unusual occurrence, where the right leg mortified in its entire extent, though there had been neither anasarca nor evident inflammation precedently. Unfortunately, no examination of the body after death was permitted. The details of the case, therefore, possess no such particular interest as to need to be recalled here at length. Briefly, it was a case of dry gangrene, occurring in a woman forty-three years of age, who had been suffering for some time from a first (?) attack of subacute rheumatism, and had, on her admission, pericarditis and considerable aortic sigmoid obstruction. The gangrene was accompanied by intense pain in the limb, with insensibility to external impressions. Death happened at the end of five weeks,

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nishing; but that the employment of this remedy in cases where there is room for such effects to be produced, is commonly not without danger.

Probably the correct principle of practice is that inculcated by Dr. Williams (London Journal, 1850, p. 467)—that, namely, of restoring *all* the secretions to their normal condition before we determine the plan of our further proceedings, or select the secretion by which, in particular, we should endeavour to remove the effused fluid.

[*] But see on this subject Dr. Munk's paper, Guy's Hospital Reports, vol. xi. p. 293.

[†] Of cases of recovery against hope—of instances of the good effects of steady persistence in a fixed plan of treatment—the most striking which have come under my own observation have been renal dropsies treated by preparations of iron.

[*] There is another respect in which cardiac differs from renal dropsy. In both alike, excoriations and sloughing of the integuments are of most unfavourable augury, and in both alike it is the exception when they are not followed by fatal consequences. Still, in cardiac dropsy they are sometimes recovered from, and the relief afforded by the free outlet thus offered to the dropsical fluid sometimes tends to prolong life. But in renal dropsy, sometimes, from these consequences, the patient seems to date a new period of his existence, and as the slough parts, and the wound suppurates and slowly heals, the fluid is absorbed, the albumen disappears from the urine, the heart ceases to strive, and, judged by the rules by which we determined him to be ill before, the patient seems to be again well. Morbid anatomy, indeed, tells us here that the recovery is only seeming; clinical experience, however, has not such a pleasing semblance even to tell us of as concerns cardiac dropsy.

[†] See Cyclop. Pract. Med. vol. iii. p. 131; Hope, op. cit. p. 224; and a striking case, Med. Gaz. xv. p. 748; also Dublin Journal, vol. x. N. S. p. 301.

resulting apparently from the exhaustion of diarrhœa.

Mortification must be regarded rather as indicating the amount of incurable mischief done, and as displaying the action of injurious influences, than as itself exerting such influences, in any marked degree, beyond the limits of the organic lesion. The case just narrated might serve to point this conclusion; for there, mortification of half an extremity was only after five weeks, and then only contingently, a cause of death.

Anasarca, inflammation, mortification—this is the regular order of succession. In the last case the two first processes seemed to be absent; in other cases the integuments inflame and slough, not as an effect of the anasarca, but, as it might seem, primarily, from venous obstruction. Under these circumstances the . inflammation assumes a much more formidable aspect than when it is consequent on anasarca. The few cases on record which I have met with agree with what my own observation has supplied, in representing this form of disease as most rapidly fatal.

We may express, as a general conclusion, what these consequences of venous obstruction illustrate in but one,—albeit, the most important form. Inflammation of the integuments is more to be dreaded, when, in connection with valvular disease of the heart, it arises from some widely diffused cause, instead of originating in some limited point, as more commonly happens; for so the cause which has presided over its first manifestation prevails generally, and the system, under these circumstances, is ill calculated to withstand its attacks. There would seem to be less cause for present fear in the inflammation which extends from a wound, where, for instance, the serum has made its way through the cuticle, or has been evacuated by acu-puncture. Extreme is the patient's misery from such a cause; yet, as a question of time merely, inflammation commencing in this way, and running on to sloughing, certainly does not bring so much present danger to life as when it occurs under the condition above noticed.

There is no reason to question the correctness of the explanation generally received, which, connecting the diffused gangrene secondarily with the condition of the heart, would refer it more immediately to the ossified state of the arteries, and to their obstruction by coagula: but I have nothing to add to the data on which this opinion is founded.

In all these cases, where active treatment is out of the question, a good deal may be done to relieve distress by fomentations and poultices, and the very cautious application of leeches. The necessity of maintaining particular positions, on account of the dyspnœa, interferes with the use of the water-bed: but the want of this most useful appliance is not so much felt here as might seem at first to be the case; for the sloughs are usually on the sides of the legs, and in the folds of the skin, rather than on the hips and sacrum, and parts exposed to pressure, as in fever. As an encouragement to treat these cases with that care and assiduity which only the hope of success can inspire, a case is recorded by Andral,* where the use of quinine and stimulants, and the external application of bark, was followed, as far as concerned the gangrene, with the most complete success. And that these slight hopes may not rest on routine treatment, but on the fulfilment of the rational indications in each individual, an instance is supplied by Andral of the successful issue of a case of the same disease treated on the most opposite plan. The complication was diffuse inflammation of the integuments; and, under the use of very free depletion, the patient so far did well. Such cases, however, form the exceptions: they are very rare.

Effects of valvular disease on the action of the heart.

We have considered, in a former part of this lecture, the organic effects of valvular disease on the muscular structure of the heart, as lying at the root of almost all the secondary complications above described; and perhaps the changes which the functions of the heart undergo from this cause might, on the same grounds, have claimed a preliminary notice. But these seemed to find their fittest place here, at the close of the sad catalogue of symptoms which the other suffering organs display. For let all these complications of other organs have been avoided, whether by accident or by the patient's happy constitution in these particular respects, whether the disease have been averted or fairly met by the physician, or have never threatened at all, still there is the natural termination of the disease to be apprehended—death through failure of the heart's action.†

And there has already been occasion to notice one or two conditions of disease into which a deranged action of the heart, as distinct from valvular imperfection,

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[*] Clin. Méd. tome iii. p. 84-86.

[†] Not unfrequently we find advanced valvular disease of the heart in the bodies of patients who have sunk unaccountably from diseases or accidents which may have seemed scarcely severe enough to destroy life. This, however, is not exactly the death from failure of the heart intended in the text. Such an event, moreover, is more frequently explained by coincident renal than by cardiac disease.

seemed to enter. There is still another condition, which, though it has scarcely been named, yet much of what might be said of it under its own name has been already forestalled in the consideration of the diseases with which it coincides. Palpitation, as a disease in itself, apart from hypertrophy and dilatation—the instruments by which it becomes a source of so much distress and danger, and apart from that functional imperfection of the valves by which the symptoms may temporarily be so aggravated, is a subject of great practical importance: yet it has no claims for any lengthened notice here; for it coincides, perhaps, as often with a healthy as with a diseased state of the valves; and it is, *per se*, a sign of an irritable rather than of a labouring heart.

Of its treatment and pathology, where depending on other causes than valvular disease, it is beside the present purpose to speak at length. We must keep in mind that palpitation coinciding with, need not depend on valvular disease, though it may be much aggravated by this means. So far as it is connected with valvular disease and its complications, the treatment, of course, will bear a due regard to the cause; and, under these circumstances, nitrate of potash, or digitalis, with perfect rest, have always appeared to be of most avail. But the distress and alarm which this symptom of palpitation gives rise to are so great, that we must make its relief a special point of treatment, and act on its own indications when we fail in its removal by a due attention to those which the valvular disease suggests.

Does the mind, in very terror at the much dreaded name of disease of the heart, produce this symptom of palpitation? The same upright candour which forbad us to hold out deceitful hopes of cure to the patient will now give him confidence in our assurance of the absence of present danger, and so aid to fulfil our promise of speedy relief. What iron, or tonics, or opium, or belladonna plasters, with a more liberal diet, will do for anæmic palpitation where the heart is sound, they will do here, though the heart be diseased; or, if the irritability be inflammatory rather than anæmic, a few leeches,[*] or the cautious use of digitalis, or the insertion of a seton, may calm, almost, as it were, by magic, the throbbing heart.[†]

But this by the way.[*] We have here to do, not so much with these lesser perversions or derangements of the heart's action, as with its failure; and of this, palpitation gives no certain indications. It is a sign of active life, however feeble,—of resistance to, or irritability under, disease. We are dealing now rather with the signs of coming death.

The failure of the heart is a condition which enters largely into the termination of nearly every protracted case of heart disease, in the ordinary course of events: and Dr. Williams justly calls attention[†] to its earliest indications, as constituting an important element in the prognosis of the duration of life in any particular case; though, among the various complications of valvular disease, they are very likely to be overlooked.

Again, the gradual failure of the heart's action may be, under very favourable circumstances, the sole indication of coming death, or, as we say, of the breaking up of the constitution: and as it gradually makes itself felt, the patient may sink to death by almost imperceptible decay. But on neither of these forms of the disease have I here anything to remark: for I have nothing to add to what, in one or other shape, is so familiar to daily experience. Rather, in pursuance of the plan which has been followed, as closely as might be, through these lectures, I would limit my remarks to a less common form, where the action of the heart is suddenly deranged, or the patient is struck down in a moment by fatal syncope.

It needs no lengthened exposition here to show that the heart is something more than a hollow muscle,—that it is endowed with something higher than mere mechanical functions. Perhaps, even the attempt to prove it weakens the consciousness which each one has in his own breast of the fact. We have seen how the proper contraction of the heart may be impeded, and how mechanical disease may be secondarily induced, by mental emotions, just as well as by more tangible physical causes. But thus the cause is not mechanical nor necessarily irremediable. When it has ceased to act, there are no incurable organic effects left behind, at least in the first instance,—no obstacle to the immediate restoration of health,—nor, save a liability to the recurrence of the same functional disturbance, to its permanency. Yet this perverted action may go on to induce organic disease, or even to destroy life.

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[*] Latham, Diseases of the Heart, vol. ii. p. 255.

[†] The coincidence between enlargement of the thyroid body and palpitation of the heart has been noticed by numerous writers. Extreme habitual anæmia, nervous excitability, and staring prominent eyeballs, mark very characteristically the subjects of this coincidence. Since Dr. Parry's observations called my attention to the subject (Collections. vol. ii. p. 111.), I have often met with notices of the same coincidence. Neither reading nor observation, however, have yet shown me any particularly successful method of treating this peculiarly violent and intractable form of palpitation.

[*] It is scarcely necessary to dwell here on what have been so very fully described by systematic writers,—namely, the effects of valvular disease on the pulse. In the present point of view, setting out, as we do, from the knowledge of valvular disease of the heart, the feel of the pulse but repeats the intimations of the stethoscope. The great practical value of the information derived from this source is rather to suggest inquiry than to confirm what we know more surely on other grounds.

[†] London Journal, vol. ii. p. 312.

Even as such, freed from all this obscurity which coexistent symptoms may throw around it, in the mixed or opposing results of different causes, derangement of the heart's action now comes before us as the most prominent, and, indeed, the fatal symptom. Such an event is to be apprehended rather in children than in adults. This arises partly from the greater extent of tolerance of the different organs in children, which allows life, as already observed, to be continued in them under greater difficulties than could be so surmounted in an adult, and partly from the fact that they are much less able to withstand a sudden shock, when it does come, than an adult is. So, in them, valvular disease runs on more often to its natural termination, death through the heart itself. Life continues till the heart comes actually to a standstill. The various organs can do much to relieve the effects of stagnation of the blood, but they alone cannot move it onwards, and death comes at last suddenly, by syncope, when some, perhaps trivial, cause has given to the heart's action a momentary check, from which it cannot recover itself.

Dr. Latham[*] mentions two striking cases, where, after a sudden shock, caused by fear and anger respectively, all the symptoms of valvular disease set in, and ultimately destroyed life: yet, after death, no lesion of the mechanical apparatus of the heart, sufficient to explain these symptoms, was discovered.

It would seem that, in the moment of passion, the rhythmical action of the fibres of the heart had been suddenly deranged, and had never been restored. Thence ensued valvular imperfection, and thence disease and death, just as if the valvular imperfection had depended entirely on a physical cause. Only, as the patients' hearts were healthy, they could bear the first shock which, where the heart is already diseased, is capable of destroying life.

There is little or nothing to add here to what Dr. Latham has so graphically described under the name of the effects of a shock to the heart. The subject may be pursued at greater length in his Lectures, from which I have, throughout, so largely drawn, and, I feel, so insufficiently acknowledged. I believe that he has expressed and duly arranged all that is known on this matter, throwing the light of modern pathology on the quaint narratives in which the older observers have so well recorded what had moved their curiosity, yet passed their understanding.

It remains to trace upon a heart diseased, and already failing under its burden, the effects of what we see to be so serious an injury to the heart. No general description could display these effects better than the brief details of the following case. For the particulars of the early history I am indebted to Mr. Paget.

A gentleman, twenty years of age, had always enjoyed good health, and had always passed for a singularly healthy and robust man, almost to the moment of his sudden death. He was fond of all athletic excercises—riding, and playing at cricket; only he had a great aversion to bathing, as he said that "the cold water made him feel so tight across the chest." One day, having got up in his usual robust health, he was suddenly taken ill on Holborn Hill,—so suddenly, that he turned into a shop, and begged for a glass of water, and leave to sit down for a while. He rose and said he would walk on, but he looked so pale that the people went to call a cab:—before it could come, he was dead.

On examination of the body, his heart was found to be enormously enlarged; the mitral valve was much contracted, and there was very extensive earthy deposit round its base. The aortic valves were only two in number,—ragged, earthy, and hollowed out like carious teeth.[*]

Why the heart should have stopped at this particular period is perhaps less a matter for surprise than why it should have gone on for so long without a symptom. For his was not a life of quiet and repose,—he mixed in and enjoyed all the most athletic exercises. The increased obstruction which the valvular disease caused was overcome by the most exactly commensurate increase of muscular power. Suddenly the heart failed: the huge mass which, by the most accurate adjustment of its various parts, had been doing its work as smoothly, to his own feelings at least, and imperceptibly as in health, and made up for the imperfections of the instrument by its strength, received a sudden shock; and death resulted almost as rapidly as when the pressure of the blood is suddenly removed on the rupture of an aneurism. It is of interest to trace, in the only symptom of his disease which this man had ever displayed, indications of the heart's impatience of any sudden shock. The sudden shock of cold water on the breast, though momentary, was felt much more keenly than the severe sustained exertion of the sports in which he delighted and excelled.

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[*] Op. cit. vol. ii. p. 205-206.

[*] I am indebted to Dr. Taylor, of Guildford Street, for some particulars of great interest in relation to the congenital origin of the disease in this case.

The son died, æt. 20, as above described.

The mother died three years ago, after forty-eight hours' illness. She had been considered to have dilatation with thinning of the walls of the heart: but no examination of the body was made after death.

The father died, since these Lectures were delivered, æt. 66, of rupture of the heart, after ten hours' illness. His heart was soft and rotten. The aortic valves were thick and opake, but efficient, the coronary arteries pervious. There was no opportunity of examining the heart microscopically.

If the occurrence of death, under these circumstances, owned any fixed unvarying laws, it would be better to occupy our time in endeavouring to establish these laws, with however small a measure of success, than in illustrating particular points. But it is not so: we have attained no further on this matter than to know that this or that may happen. We have a succession of pictures rather than one continued view. I would, then, ask your patience, while I bring forward but one more picture of human suffering from this gloomy series, selecting, as before, a case where the usual earlier symptoms had been absent, or at least unnoticed. Not to say that the history of disease of the heart might not have been elicited, by inquiry, either in this or the preceding case, had circumstances allowed; at least, to them the symptoms appeared to date from the stated period. But for the accident, the subject of the following might have lived on till death overtook him as suddenly as it did that of the preceding narrative. For the opportunity of observing this patient, I have much pleasure in acknowledging my obligations to Dr. Jenks, of Brighton.

Thomas Elliott, aged 25, was admitted into the Sussex County Hospital, under the care of Dr. Jenks, September 1849, pale and dusky-looking, suffering intense dyspnœa. He said that he had suffered acute rheumatism on two occasions, thirteen and five years ago, in St. George's Hospital. Before the attacks of rheumatism he had been strong, but since then he had been at times liable to pain in the region of the heart, and to palpitation. However, he thought himself well till ten days before his death, when, walking home in the dark, he tripped over a stone and stumbled, but did not fall. From that moment his symptoms set in: as he said, he stumbled a healthy man, and he rose up such as he came in, after eight days, to die.

On auscultation, the heart was found to beat with very great rapidity and irregularity, but there was no morbid sound. The impulse of the heart was not forcible, and its situation was ill defined. He had abundant small crepitation, with dulness on percussion, over the upper lobe of the left lung.

He was supported by wine, while an attempt was made to relieve his circulation by taking a little blood from over the lungs by cupping: but he died in a few hours from the time that I saw him.

The pericardium was found to be closely adherent by tough old areolar tissue. The right side of the heart was scarcely larger than natural. The left was enormously enlarged, the mitral valve thick and stiff, evidently not efficient, the chordæ tendineæ elongated and much thickened. The aortic valves were rigid, their attachments lengthened, and their edges rolled back.

Dissection fully explained this very obscure case, though it did not favour the interpretation which was put upon the symptoms and history before death. A previous attack of rheumatism, subsequent enjoyment of health suddenly interrupted by a fall, then all the symptoms of extreme valvular disease, with no evidence of enlargement of the heart,—how were these to be explained? Nothing seemed more probable than that an extensive rupture of a valve had taken place: nothing was further from the truth. The physical examination of the heart tended only to confuse the diagnosis, for in his condition no thorough examination could be made, and the evidence obtained was altogether inconclusive or negative. There had been no mechanical injury inflicted on the heart by the slight shock which it had sustained; but this slight shock had inflicted an irreparable injury on the nice adjustment of the action of its several parts. The regularity of its action had been for a moment checked, and could not be restored again; and this irregularity had induced sudden pulmonary congestion, with rapid and extensive effusion into the vesicular structure of the lungs.

It needs but little more to complete the subject of valvular disease of the heart,—but a few words on the last end of our ineffectual pains, and of the sufferings of the patient, on the period when the evident approach of death suspends every other indication, save that of soothing the last moments of the dying man.

It were a sad story to tell in how many

various ways death has carried off patients suffering from disease of the heart, though, in many cases, the history is singularly uniform.

Thus: they have had a slight diarrhœa, they are observed to look pale on returning to bed; with all haste assistance is sent for, but death has already done its work, and neither brandy, nor ammonia, nor ether, can relieve the heart of the burthen which has weighed it down. Perhaps the patient has been sitting up, as being a little more cheerful than usual; perhaps the unusual heat has exhausted him; or perhaps we turn to the cold as the explanation of the sudden fatal syncope. But in truth we need very little more explanation than dissection gives us, for it is to be wondered at how the heart went on so long, and how smoothly everything else must have gone on not to suspend its action long before. It would be yet more to be wondered at, if, after any interruption, it could have righted itself.

For dissection shows us in these cases the most extreme disorganization that might seem to be compatible with any continuance of the functions of the heart and of life. The orifices may be contracted to almost complete closure, the organ hypertrophied and dilated, forcing the lungs out of its way; its walls rigid and fibrous, creaking under the knife; or the pericardium may be agglutinated with the walls into a leathery elastic mass, which we wonder to think how it could have contracted to expel its contents at all.

But the approach to death has often greater terrors than death itself,—so calm, although so sudden, as just described. Indeed, it were a sad story to tell how patients with disease of the heart have died, —the tragedies, so to say, of the medical wards of our large hospitals. How some, wrung with pain, have struggled in the week-long agony of death. How some have, for days together, fixed themselves in the most fantastic postures, the only way in which they could find relief; some leaning forwards,* resting their heads on a stool to catch a few minutes' sleep; some on their hands and knees, till the approach of death, blunting their sensations, allowed them to lie down,—a sure sign of coming dissolution. How some, not one only, in their gloomy despondency,—for

> . . . . "we are not ourselves
> When nature being oppressed commands the mind
> To suffer with the body,"—

have laid violent hands on themselves, and others have shrieked in terror when the agony of death at last came upon the dreams which had cheered them in the thought that their sufferings were but for a while, and in the hope of renewed health and strength. He had done a good service to humanity, who had taught us how to prevent disease of the heart; and he, as society is constituted, yet more, who had taught us how to cure it. But his were no little diminution of the cup of human misery who should teach us but its euthanasia.

THE MORALS OF QUACKERY.

"We copy the following sensible remarks from the Yankee Blade, a newspaper of this city, and seriously wish that its cotemporaries would occasionally speak to their readers in the same style. Should they do so, quackery in medicine might lose something of the moral influence which is given it by the newspaper press.

"The proprietor of a patent medicine expresses, through one of our city papers, his astonishment and horror at the 'suicidal course of the sick' in neglecting to take his Universal Vegetable Family Pills. Of course this exhibition of feeling, on his part, is very proper, and the subject opens up a new field for the moralist. In how far do the sick become parties to their own deaths, or in how much are they implicated in the crime of suicide by refusing to take patents commonly termed quack, medicines? We can fancy the feelings of a high-minded, conscientious and sympathising quack, as he witnesses the infatuation of sick persons, who (with money in their pockets) refuse or neglect to avail themselves of the remedies he offers them, guaranteeing a cure if his directions are followed. How lively must be his sense of the awful guilt they incur by permitting disease to ravage their frames, when he offers them pills or bitters at a dollar the box or bottle! The quacks will find some alleviation of the sorrow with which they regard the blood-guiltiness of those who refuse to be healed, in the reflection that this branch of medical jurisprudence has been hitherto entirely neglected, and that the moral sense of the community has never been properly enlightened upon the subject. We would suggest to Dr. Brandreth, or 'Old Jacob Townsend,' the propriety of their directing the attention of Professor Wayland to this matter, so that to his next edition of the 'Limitation of Human Responsibility' may be added a chapter upon *the responsibility of sick persons who refuse to buy medicines*—a responsibility which, in the view of patent medicine venders, is only limited by the resources of the patient's pocket."—*Boston Medical Journal.*

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* Especially in connection with dilatation of the ascending aorta.

Original Communications.

CASES IN MIDWIFERY.

By Thomas Radford, M.D., F.R.C.P.Ed., &c. &c. &c.
Consulting Physician to the Manchester and Salford Lying-in Hospital.

The relation of cases in every department of medicine is highly important to the profession, and in none is it more so than in midwifery. It is, however, the duty of the practitioner truthfully to register his unsuccessful as well as those which terminate successfully: any other course is culpable. The value of cases does not consist in a selection from the case-book of those only which tend to the greatest *éclat* of the writer: this may feed his vanity, but it deceives the profession. If a full and candid statement be made of all, then the aggregate will furnish data from which correct statistical tables can be drawn out. Every medical practitioner ought to have sufficient moral courage to stand against both professional and popular opinion, and be guided by a higher principle in the discharge of his duty. It is no less desirable that Christian charity should abound in us as a body, which would lead, and indeed make each and all of us always ready to allow for the want of success in others.

Case I.—*Cæsarean section (unsuccessful).*

On Tuesday evening, February 21st, 1841, Mr. Dunn, Surgeon of Manchester, and Mr. Goulden, of Stockport, called upon me, to request my opinion on the case of Mary Forrest, who resided at Stockport. She was the patient of the latter-named gentleman, from whom I learnt the following particulars:—He had visited her at one o'clock, p.m., (on Monday) the day before. She was at the full period of gestation, and had violent and regular pains in the back. Mr. Goulden made a vaginal examination, and found the pelvis very much distorted: he thought she could not be delivered unless by the Cæsarean section. A grain of opium was ordered to be taken every two or three hours until the pains abated, which happened after six doses had been taken. When Mr. G. visited her on Tuesday morning he did not think that labour had commenced. The object of his coming over to Manchester was to request me to visit the patient the following day, and examine the pelvis, so that clear and definite views might be had what course should be adopted when labour came on. On Wednesday I accompanied Mr. Dunn to Stockport. We found Mary Forrest in bed, and so helpless as to be unable to turn herself. Her countenance was short and inexpressive; her lips thick; her eyes blue; on the cornea of the right eye there was a considerable opacity, the result of an injury from having been struck by a shuttle. She had been employed as a power-loom weaver in a cotton factory. Her age thirty-eight years. Her first labour, which was natural, happened nineteen years since, and the child was a boy. About eighteen months before her present labour she became pregnant a second time, and aborted at the end of two months. Her stature had become considerably less, and her legs and thighs were very œdematous. She said she felt the movements of the infant, which on first placing my hand on the abdomen I thought I perceived; but keeping it steadily applied, I soon found it was only slight contraction of the uterus. The stethoscope was used, but gave no evidence of its being alive. The abdominal parietes were very thin, and felt very flabby. The uterus projected very much forward, and lay over the symphysis pubes to such a degree, that when the patient was placed in a sitting posture in the bed its anterior surface rested on her thighs. Her breech was gibbous, and her thighs approximated considerably more than natural. The discharge from the vagina was of a dark colour, and had a putrid smell.

Her constitutional condition was very bad. Pulse 140; tongue furred; great thirst; continued vomiting; great abdominal tenderness and tension; bowels not moved for two days.

By a vaginal examination the pelvis

was found to be considerably distorted. The outlet was so much diminished as to render it difficult to pass the hand, in order to ascertain as precisely as possible the measurement of its several parts. The arch of the pubes was nearly destroyed, by the near approximation of the rami of the ischia and pubes, there being only a narrow slit, which just admitted the point of the finger. Between the tuberosities of the ischia I could barely place three fingers. The coccyx was considerably incurvated upwards and forwards.

The brim was tripartite in figure, or composed of three divisions. This altered shape was produced by the upper portion of the sacrum, and the last lumbar vertebræ standing so very much forwards and downwards, inclining a little more to the right side; and by the body of the ossa pubes and ischii being forced backwards and inwards, and the rami and symphysis pubes jutting forwards: on the right side I could just place the point of the index finger, and on the left I could pass two fingers, one lying partially over the other.

Neither the presentation of the child or the os uteri could be felt.

Although my attendance was specially requested to explore the pelvis in anticipation of labour, and conclude on the measures which must be adopted when it supervened, we were compelled now to decide on her delivery, as she was and had been in labour since Monday, when the membranes must have ruptured, as I ascertained she had a dribbling watery discharge afterwards. We unanimously agreed that she could only be delivered by the Cæsarean section. When we apprized this poor creature of our decision, she readily consented to any plan we considered necessary.

An enema was administered, but it did not act. The catheter was passed, and about an ounce of urine withdrawn. Afterwards I placed the hand on the abdomen, and found still a fluctuant tumor, which induced me to pass a longer catheter, and by a careful manipulation it was carried higher, and succeeded in further removing a considerable quantity of urine.

In the first place we arranged the duty which each gentleman had to perform. Mr. Cheetham and Mr. Pigott oined us to witness the operation.

I commenced to make the incision a little above the umbilicus, on the left side of the linea alba, and extended it downwards towards the pubes, so as to be about six inches in length. In consequence of the very attenuated state of the abdominal parietes the uterus was at once exposed, and its tissue partially cut. It was necessary to raise the deflected uterus upwards before the external incision was made. About a pint of water, with a large portion of intestine, now escaped. This portion of bowel, which had been dangerously exposed to be wounded, being drawn aside by Mr. Dunn, I fully divided the uterus in the line of the wound first made into it. The placenta was now exposed, the greater part of which lay more to the right side of the incision and maintained its adherence, whilst that on the left (the smaller division) was separated by the contraction of the uterus.

Mr. Dunn immediately passed his right hand in search for the feet of the infant, and his left along the body to guard its neck from being spasmodically seized during its abstrcation (a caution given to him by me, having in a previous case met with this disaster). Having gained a firm hold of the feet of the infant, he very cautiously and expeditiously drew the body forth until the neck came to pass, which was then firmly grasped by the uterus, and the head thereby detained.

The womb had an appearance as if it was indented, and strongly reminded us of its condition in hour-glass contraction. The difficulty at last being overcome, the infant (dead, and partially putrid) was completely removed. The adherent portion of placenta was detached, and wholly extracted. Not more than a few ounces of blood was lost.

The intestines were much distended with air, and were difficult to keep in position during the operation; and could not be replaced or returned, after it, until the wound was contracted with sutures. Their peritoneal coat was highly inflamed.

The edges of the wound were brought together by interrupted sutures, and maintained by straps of adhesive plaister, and supported by a bandage placed round the patient. She bore the operation with great fortitude, and, indeed, scarcely made a complaint during its performance. Afterwards, she said she had not suffered so much pain as she had felt from some of the unavailing parturient pains. She now expressed herself as being very comfortable.

9 o'clock P.M.—Considerably worse; pulse 140; tongue furred; great thirst; vomits continually; surface cool; countenance anxious; great tenderness of the belly; clyster not returned; had no sleep; a little urine passed—Ordered to take Morph. Acet. gr. j.

Thursday, 23d, 2 o'clock A.M.—Mr. Goulden visited her. Pulse 160; vomiting unabated; matter rejected of a dark colour; skin rather warm; breathing quick; belly very tender; had no sleep; bowels still constipated—Ordered Morph. Acet. gr. j.

9 o'clock A.M.—Mr. Goulden and Mr. Cheetham reported that she continued to vomit the same fluid; skin warmer; pulse less frequent, and countenance less anxious; bowels moved; passed urine; lochial discharge; abdomen tense and sore—To take Morph. Acet. gr. j., and saline effervescing mixture.

Half-past 1 o'clock P.M.—Mr. Goulden was urgently summonned,—it was stated she was dying: he found her very drowsy or lethargic; had great difficulty to rouse her. Pulse 140; countenance more flushed, and rather blueish in colour; no vomiting; abdomen distended.

2 o'clock P.M.—Present, Dr. Radford, Mr. Goulden, Mr. Dunn, and Mr. Pigott. She still continues very drowsy; pulse 140, and very tremulous; skin bedewed with a cold perspiration; her countenance is sunken, and her cheeks are of a purplish colour; her breathing very hurried, with mucous rale; does not vomit; belly tympanitic; bowels not moved—Ordered an enema with Spt. Terebinth, &c.

The symptoms continued to grow worse until 7 o'clock (vespere), when she expired: having lived about twenty-seven hours after the operation.

Body examined twenty hours after death, by Mr. Dunn and Mr. Gaskell, in the presence of Dr. Radford, Mr. Goulden, Mr. Pigott, and Mr. H. Winterbottom. General tumefaction of the abdomen, its parietes being extremely thin. The edges of the external wound were nearly altogether adherent; adhesion of the peritoneal surfaces of the intestines and that of the abdominal parietes. On breaking through these adhesions, about a pint of bloody serum was discharged. The convolutions of the bowels were firmly united, and effused lymph was seen on their surfaces. The colon adherent to the uterus.

We were particularly struck by the very remarkable pallidity of the tissue of the intestines, when compared with their highly injected vascular state seen during the operation. The uterus stood obliquely; the wound in this organ was three and a half inches long; its edges were flabby and gaping; the os was very patulous, and its lips ragged and gangrenous. The lower portion of the cervix was very soft and dark coloured. The internal surface of the uterus was softer and darker in colour than usual. The gall bladder large and full: spleen healthy. The left kidney, externally, natural, its pelvis larger, and it contained a creamy fluid. Right kidney smaller than usual, and contained a similar fluid.

The legs very œdematous. Pelvis removed; brim tripartite in shape; found an excessive quantity of fat about the pelvis and back.

From upper edge of the fifth lumbar vertebra to the inner surface of the symphisis pubes, 2 6-8ths inches.
From side of the said vertebra to the ilium behind the acetabulum, on the left side, 5-8ths of an inch.
Ditto, on right side, 1 1-8th inches.
From the inner surface of the pubes, anteriorly, to the acetabulum, on the right side, 3 7-8ths inches.
Ditto, left side, 3 4-8ths inches.
Cross measure of the widest portion of the anterior slit, 5-8ths of an inch.
Ditto, at the point of the widest portion of the anterior slit, 2-8ths of an inch.
Outlet.—From the point of the coccyx, to the lower edge of the symphysis pubes, 2 5-8ths inches.
From the widest part of the anterior slit, to the coccyx, 1 2-8ths inches.
Depth of the anterior slit, 2 inches.
Between the anterior edges of the tubera ischii, 1 6-8ths inches.
Ditto, posterior edges of the tubera ischii, 2 4-8ths inches.
From the right spine of ischium, to the coccyx, 6-8ths of an inch.
Ditto, left spine of ischium, to the coccyx, 6-8ths of an inch.
Depth of the fore part of the pelvis, 3 5-8ths inches.

Ditto, of lateral part of the pelvis, 3 6-8ths inches.

Ditto, of posterior part of the pelvis, 3 inches.

Distance, externally, between the bottom of the acetabula, 1 7-8ths inches.

Ditto, internal measurement, 1 3-8ths inches.

Ditto, between the superior spinous processes of the ilii, 7 and a half inches.

Ditto, between the inferior spinous processes of the illii, 4 7-8ths inches.

Ditto, between the centre of the crests of the ilii, 10 inches.

Ditto, from the upper edge of the fourth lumbar vertebra to the inferior spinous process of right ilium, 1 6-8ths inches.

Ditto, of left ilium, 2 6-8ths inches.

Remarks.—Mollities ossium, under which this woman suffered, usually commences during pregnancy; but in her case it most likely began at the time she first complained of pains in the back and hips. The disease most probably made little progress until her second pregnancy, when no doubt it was much aggravated; but its ravages on the pelvic bones were chiefly made during her last gestation.

Some of her relations had suffered from rheumatism, and it was stated that she had laboured under the same complaint; but for anything I know to the contrary, they (her relations) might have had the disease now under consideration. The predisposition, then (most likely hereditary), remained comparatively undisturbed until roused into activity by those changes which are produced on the vascular and absorbent system by impregnation.

Her occupation as a weaver no doubt greatly contributed to increase the degree of pelvic distortion.

The projection of the promontory of the sarcum and lumbar vertebræ mechanically impeded the passage of the fæces into the rectum—which in such cases is always an additional cause of constipation—which state almost invariably occurs to a greater or less degree in ordinary pregnancies. The enema apparatus should have a long flexible tube (like that which is passed into the stomach to throw fluids into it), so that its point can be carried beyond the altered pelvic brim.

An ordinary female catheter is too short to answer its purpose in cases of this sort; it should be equal in length to that of the male. By the deflected state of the uterus, the bladder is forced forwards and downwards, whereby its cervix is lengthened and compressed upon the pubes. This altered position of the bladder requires a different method to pass the instrument. The point being introduced into the meatus (which lies in the upper part of the anterior pelvic slit, and a little behind the lower part of the symphysis pubes), the hinder part must then be depressed and carried backwards towards the extremity of the coccyx, and the instrument must afterwards be cautiously moved on into the bladder.

The stethoscope affords us information of two kinds,—positive and negative; in its application here we only derived the latter kind. The pulsation of the infant's heart could not be heard, and from the absence of its sound, coupled with the odour of the vaginal discharge, we concluded it was dead. The functions of the placenta had long ceased; and therefore no *soufflet placentaire* was audible, so as to point out to us the location of this organ. If it had been otherwise, I might, and indeed ought, as far as possible, to have made the incision into the uterus so as to avoid cutting on and into the placenta. The importance of such a procedure I had stated before the operation, to Mr. Dunn, and requested that he would, as expeditiously as possible, extract the infant, and at the same time pass one hand to guard its neck from spasmodic seizure by the uterus, if perchance I should unfortunately cut upon the placenta.

I have elsewhere (Edin. Med. and Surg. Journal, vol. lx. and lxvii.) ventured to state this (the incision, and consequent partial separation, of the placenta,) as a cause of this irregular contraction of the uterus. If the child had been alive, most likely such a grasp would have destroyed it before it could have been extricated.

It is to be lamented that the existence of labour had not been earlier known: perhaps a different termination would have taken place. To wait for the changes which usually occur in the os uteri during the first stage of normal labour, is a great mistake, in those cases in which there exists great pelvic distortion.

This part of the uterus is not often to be felt, and when it is accessible it is found little open; its full dilatation having been prevented by the vicious conformation of the brim of the pelvis. The evil arising from this procrastination ought to be a beacon to us in future, and guard us against vainly waiting for such a change.

The highly inflamed state of the bowels, which existed before the operation, and their pathological condition after death, together with that of the os and cervix uteri, &c., afford indisputable evidence of the mischief which had been inflicted during her protracted labour.

The term protraction should be relatively considered. A woman (as in this case,) in a bad state of health cannot safely endure the same degree of pain, or for the same length of time, as one who is well; nor will the os and cervix uteri bear pressure very long without structural injury. Surely there is here sufficient proof of the necessity of the Cæsarean section; for neither the presentation of the infant, or the os uteri, could be touched. Independent of these circumstances, I am bold to assert, the delivery could not have been performed by the perforator and crotchet, even if assisted by the marvellous power of the osteotomist, provided the implements were used by the most experienced and celebrated anti-Cæsareanist. No practitioner, then, however warped his opinions are, will presume to attribute the death of this poor creature to the operation; but, on the contrary, will place the case in the catalogue (already too great) of those in which death has happened in consequence of having too long deferred its performance,

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"THE TIMES" ON SURGICAL OPERATIONS.

SURGICAL operations of late years have led to distinction and honour—to unexpected elevation and rapid fortune. They have won in a day for the operator more than years of unobtrusive labour could otherwise have gained. An operation has been witnessed as a spectacle, and audiences altogether oblivious of the patient have judged of the merit of their actor by the rapidity of his performance and the stoicism of his manner. His triumphs have been recorded on the second-hand of the watch. The peril of such victories is obvious.

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

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[Continued from p. 595.]

No. V.

THE CLIMATE OF SYRIA.

THE Arabian poets asserted, at a very remote period, that "the Lebanon bore winter on his head, spring upon his shoulders, and autumn in his bosom, while summer lay sleeping at his feet." This is more than corroborated by subsequent poets and writers. "I have myself," says Volney, "experienced this figurative observation during the eight months I resided on the Lebanon." The lowest range of the thermometer in ordinary winters is from 38° to 40°, and 42° of Fahrenheit. In winter the higher chain of mountains, from Mount Hermon in the South, to the highest range beyond Tripoli in the north, are snow-capped, while the lower country is always free from it. During unusual winters, such as that of 1849, the snow may appear on the low lands for a short time, but generally the climate is so mild in the plains, even in winter, and more especially along the sea coast, that the orange, the palm, banana, and other delicate trees, flourish in the open air. In Syria different climates are thus united under the same sky, and in a narrow compass, pleasures and productions which nature has elsewhere dispersed at great distances are collected. In our northern latitudes, seasons are divided by months, in Syria only by hours; a ride of a few hours takes one into a different climate,—in fact, you can choose any climate, and any range of temperature you may desire, by extending your ride only a short way.

The Range of Réaumur's Thermometer at Damascus.[*]

For June 1844.

Day.	Morning.	Noon.	4 h. P.M.
1	16	17	16
2	15	17	17
3	17	21	22
4	18	22	21
5	20	25	24
6	21	24	22
7	17	19	20
8	17	18	18
9	18	20	17
10	17	20	19
11	18	21	22
12	19	21	22
13	20	21	22
14	21	22	24
15	21	22	24
16	20	22	23
17	18	22	23
18	20	22	23
19	20	24	25
20	21	24	25
21	20	24	24
22	20	22	23
23	19	20	20
24	18	20	19
25	19	21	23
26	20	22	23
27	21	23	25
28	21	24	26
29	22	25	26
30	24	26	27

For July 1844.

Month's Day.	6 o'clock A.M.	Noon.	3 o'clock P.M.
1	25	27	29
2	25	26	27
3	22	26	25
4	23	25	26
5	24	25	26
6	24	26	26
7	25	26	24
8	24	26	25
9	25	26	27
10	24	26	28
11	24	28	29
12	23	28	29
13	22	25	27
14	22	26	28
15	22	25	27
16	22	25	27
17	22	25	27
18	22	25	27
19	21	25	26
20	21	25	25
21	22	25	26
22	22	26	26
23	22	26	26
24	22	25	26
25	22	26	27
26	23	27	28
27	23	26	27
28	22	27	26
29	23	27	27
30	23	27	20
31	21	27	27

In continuation of our remarks on the climate of Syria, the observations of Dr. Keith and modern travellers are very interesting:—"At the end of February many flowers were in full bloom. They have lately begun to cultivate the sugar cane in the gardens of Sidon and Beyrout. The maize thrives in the light soil of Baalbeck, and even rice is cultivated with success on the borders of the marshy countries of Harula. Wheat, barley, rye, beans, and the cotton plant, are cultivated, and may be very extensively grown. There are millions of acres lying waste, suited to all and every kind of crop. Tobacco is now grown a good deal in the Lebanon, by the Druses and Maronite sects. As for trees, the olive of Provence grows at Antioch and at Ramla to the height of the beech. The mulberry trees are most productive, and the silk now produced by the Europeans in the country, and reeled after the European mode, competes with the best Italian, French, and Piedmont silk." The recent improvement in the making of wine in Syria only requires to be still further attended to, and it must prove as good as any of our light Cape or Spanish wines; indeed, if properly made, it is considered by judges it would be superior to any of the lighter wines now in use: the grapes that afford the red and white wines are equal to those of Bourdeaux. The water melons of Jaffa cannot be equalled in any country. Gaza produces dates like Mecca, and pomegranates like Algiers. Tripoli and Suediah, near Antioch, afford oranges like Malta. Beyrout, figs like Marseilles, and bananas like St. Domingo At Aleppo the pistachio nuts are delicious, and much prized for their flavour, while Damascus justly boasts of all the fruits known in the provinces: its stony soil suits equally the apples of Normandy, the plums of Touraine, and the peaches of Paris. Twenty sorts of apricots are enumerated there, the stone of one of which contains a kernel highly valued throughout Turkey. The cochineal plant, which grows on all the coast of Syria, contains, perhaps, that precious insect in as high perfection as it is found in Mexico and St. Domingo; and if we consider that the mountains of Yeemen are only a continuation of those of Syria, and that their soil and climate are almost the same, we shall be induced to believe that, in Judea particularly, might be easily cultivated that valuable production of Arabia,—namely, the excellent coffee of Yeemen. With these advantages of climate and soil, it is not surprising that Syria should always have been reckoned a most delicious country, and that the Greeks and Romans esteemed it among the most beautiful of their provinces, and equal even to Egypt.

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[*] From the Consulate of Austria at Damascus.

The intention of colonising portions of Syria from Europe is not of recent date, and now that many are interested in the object the subject of its climate and soil will be the more deserving of notice.

The recent act of the Sultan in making a grant of land to M. Lamartine, near Smyrna, will prepare the way for the permission to the subjects of European powers to possess land in the Turkish dominions. This was not the case heretofore, though a great deal of landed and house property has been held for the last half century in all parts of Turkey by Europeans. It is thus occupied. A native of the country, and a subject to the Sublime Porte, makes a transfer of the title deeds to a European; this act is registered in the Turkish law court, and is never questioned, and is valid in Turkish law. The advantages and facilities of colonization in Turkey, when generally known, will make that country much more frequently visited, and cause it to be occupied by Europeans more than at any former period. The removal of the restrictions of the quarantine laws, its climate and soil, and proximity now (by steam) to Europe, will be another great inducement to people to adopt it for their future homes, and as a temporary residence for invalids from India, and on sick furlough. To families of small capital, who are desirous of enjoying a happy home and smiling fire-side, free from taxes of all kinds, &c., it must be attractive.

Of the climate of Suediah it is said that a more healthy or more beautiful spot it would not be easy to find. The climate has been compared to that of the best parts of Switzerland in summer, or the south of France and Italy in winter. It is, in a word, a happy medium between Europe and Asia, and for persons predisposed to, or suffering from chest affections, it could not be better. The temperature in the warmest weather seldom exceeds 84° or 86° Fahrenheit. The mornings are delightful, and the nights serene.

The precision with which the seasons revolve is remarkable; so much so, that the people speak of the "early and later rains," as is recorded in Scripture, with that certainty which shows that their knowledge of the weather is founded on that best of tests, experience. Snow is seldom seen in the plains, and when it does fall, two hours after sunrise it disappears. During the winter, which lasts for forty days, though the winds are high, yet they are not searching, and fires, unless it be in the early morning and evening, are not required.

The scenery at Suediah and other parts of Northern Syria is highly picturesque, especially in the months of March, April, and May. The roads are tolerable for the country, and for the most part shaded by hedges of beautiful over-hanging shrubs, evergreens, fruit and other trees, and the banks of the streams are adorned with the myrtle and wild flowers in great profusion. Here are to be seen, in all their luxuriant wildness, the pomegranate with its green leaf and red flower, the myrtle, the plane tree, the laurel, scented willow, caroobi, and poplar. Here are also the fig, mulberry, and vine, the liquorice, squill, and wild verbina, the thistle, ivy, clematis, convolvulus, and other creepers, which flourish in the greatest abundance.

In such a region it is obvious the valetudinarian or agriculturist may select almost any climate or soil that may please him. Among the mountains there are rich undulating and table-lands, which extend for miles, well wooded and watered, and abounding in game, while in some of the most remote and elevated heights of this mountainious range the panther, hyena, and bear, will be found to tempt the adventurous hunter to the chase. In this part of Syria, though remote, there is no want of provisions, and most European articles may be purchased at Antioch, Aleppo, and Beyrout, for there is now an extensive commerce between Europe and Syria, while very recently some vessels have arrived from America, bringing very valuable cargoes of furniture, &c., &c.

The mulberry plantations are a great source of wealth to the people, the cocoons being considered equal, if not superior, to those of Italy. There are here also extensive groves of lemon, olive, and orange trees. All the vegetables of Europe are cultivated, and there are fields containing every variety of grain. Of fruits, there are peaches, pears, apples, plums, quinces, apricots, nectarines, cherries, Indian meddlars, almonds, and figs. There are also extensive vineyards of grapes, as well for wine as the table.

The tamarind, acacia, bay, laurel, laurestinus, Persian lilac, and cranberry, of a most luxuriant growth, are to be found here. In a note from Dr. Holt Yates, lately a sojourner in Syria, he says,—he was so much pleased with the climate of the valley of the Orontes, that he should like to adopt it as his home, did circumstances permit: the improvement in his lady's health was such in a short time that he made up his mind to remain for three years, though he only went there to see how the climate would answer, having previously tried most of the places on the Continent.

Messrs. Paton and Carne speak most favourably of the climate and picturesque beauty of the scenery of the Bay of Antioch and valley of the Orontes. They say the course of the Orontes is beautiful, strongly reminding one of that of the Wye, near Coldwell rocks, but the myrtle, the bay, the pine, and many oriental trees and shrubs, give greater richness to the present scene. The whole valley of the Orontes, up to Antioch, is magnificent; it is cultivated in many parts, and might be made, with industry, as productive as it was in ancient times. The entrance into Asia Minor, by the mouth of the Orontes, possesses a grandeur rarely equalled even in Syria. Mount Cassius rises abruptly from the sea, its sides broken into deep ravines, and lower down with woody slopes. Many of the views resemble those in Switzerland, but exceed the latter on account of the luxuriant variety of foliage, which in the spring months is prodigious.

The city of Antioch and the villages in the valley of the Orontes are the only places in the country where the pointed and tile-roofing is to be witnessed, and which is the only trace now left of the early Crusaders. The ruins and stupendous aqueduct of Seleucia are well worthy the notice of the tourist and antiquarian. The city at one time contained a population of 600,000 persons; and of its grandeur we have sufficient evidence in the fortifications, catacombs, sculptured stones, and tombs, which still remain. The aqueduct or tunnel, which was cut through the rock for more than a mile, and is only to be equalled by that of the Thames, is one of the most interesting remains of former greatness. That a people who have left such splendid monuments of their riches and power should have excited the envy and cupidity of their neighbours is certainly not to be wondered at: hence its downfal. Suediah has been termed the "key of Syria," since it could only be entered by one of three passes of Mount Amanus; and the Crusaders, it is well known, had to fight their way through them, and to subdue Antioch, before they could approach the Holy Land. At this day, none but the people of a power which rules the sea could hope to enter by any other route. It was in this region that Alexander marched to meet the warlike hosts of Darius, and it was here also that the Emperor Aurelian encountered the armies of Queen Zenobia.

I am informed by Dr. Yates that he noticed, during his first and subsequent visits and residence in Egypt and Syria, that travellers who sleep in the open air, or otherwise check perspiration, change their clothing too soon, or partake largely of fruit, water melons, and cucumbers, are liable to slight febrile complaints, ague, diarrhœa, and even dysentery; but these do not arise from malaria: they assume a mild form, and, unless neglected or injudiciously treated, subside by simple means. Hooping-cough and measles are not common in the country; and, when they do appear, are much less severe than in Europe. Consumption, asthma, and bronchitis, are unknown. Cases of paralysis, epilepsy, and insanity, are rarely met with. Rickety children, scrofula, leprosy, and elephantiasis, so common in Egypt, are rarely met with in the country districts; neither is ophthalmia so frequent or so formidable as in that country. Indigestion is common, in consequence of the pernicious effects of the long Greek fasts and improper diet. Malignant diseases are very rare—indeed, there are scarcely any. Travellers are frequently so very incautious as to expose themselves to serious attacks of fever: they pursue their English habits—gallop through the country at the hottest season, &c. &c.

The expense of living in Syria is so cheap that one could scarcely hope to be credited if it was stated how moderate this is. The luxuries of Europe are procurable at little or no cost, and the many associations in connection with Syria and Palestine must be to all of great interest. Some families who have resided for several years past in Syria speak in very favourable terms of the disposition of all sects, and the great regard entertained for Europeans, and more particularly the English. The Druses—the most influential and powerful people in the Lebanon—look upon the English as their best friends, and are at all times ready and willing to aid and oblige them. The different sects in Syria will be specified in my report, in which I propose to give a short summary of the diseases prevailing amongst particular sects, and the duration of life in each. The Bedouins of the Desert live to a very old age, averaging from 95 to 110 and 115, and, it is stated, very often to 125. The next in order are the Druses, the Metualies, Yezidez, Kurds, Ansyrees, Turcomen, Maronites, and lastly the different Christian sects, including the few Samaritan families still to be met with in Samaria. The long fasts of the various Christian sects are supposed to tend to shorten the natural period of their lives. In noticing the diseases amongst the Christian sects, there is some reason to suppose that their long fasts tend to predispose them to affections from which other sects are exempt. Though other sects have their fasts, these are not carried to the same extent, and never to so protracted a period, as with the various Christian sects in the East. After a seven weeks' rigid abstinence from animal food, and an undue use of vegetables and oil in many dishes, a disease of the skin is very commonly noticed: the bowels are irregular, the stomach deranged and enfeebled, and any prevailing disease is contracted more easily, and many lives are sacrificed in consequence. The Persians are not so long lived a people as those of Turkey, from their abuse of narcotics and stimulants: the Persians make more use of tea than of coffee; and, as they obtain tea from Russia and India on cheap terms, they partake of it very copiously, and in a concentrated form. They drink more ardent spirits, too; and, generally speaking, are less regardful of their health than the Mohammedans of Turkey in Asia or Europe. Next to the Persians come the Egyptians in order of longevity. The diseases fertile in this latter country decimate the people on many occasions, and they seem to sink under any disease more suddenly than the natives of Turkey or Persia: they appear less capable of enduring sickness or disease. The inhabitants of China, Tartary, and Japan, are all long-lived; but they do not regard the necessity of attending to cleanliness, baths, or to ablutions, as do the natives of Turkey and Persia: they are not so abstemious, either, as regards their habits in eating and drinking, and are consequently subject to many diseases from which the latter are exempt, and they are carried off by fevers and epidemic visitations in greater numbers. Their disregard of cleanliness, and their peculiar habit of constantly wearing the same garments, especially those next the skin, expose them to great inconvenience, engenders vermin, and cause cutaneous complaints which in many instances assume a very disagreeable character, and make the subjects of it most repulsive to look at or to approach. The diseases of China and the islands in the Eastern Hemisphere, are, as far as our present knowlege of them allows us to form an opinion, in all other respects similar.

The diseases of India, and the duration of life in that vast continent amongst natives and Europeans, are too well and generally known to demand any remark here: suffice to say that, as Great Britain extends her territory in that country, life will become more valuable—that is, to use the language of the actuary; the sanitary improvements in new settlements, and the recent regard to the pre-existing abuses, from the past inattention to questions of this nature, must eventually prove successful, and make our Indian possessions salubrious and habitable.

In comparing the vital statistics of different countries, it is found that, as man approaches to civilized usages and habits, so in the same ratio are diseases developed and accumulated; and, as simple primitive habits are succeeded by modern innovation and a more artificial mode of life, and an existence less compatible with man's primitive simplicity and nomade life, so in a like ratio can we trace the germs of disease and premature decay. Taking the aboriginal tribes of our Polynesian possessions, we can there easily trace the rapid decrease of population from these circumstances; and, since the abuse of animal food and stimulants has been practised, the mortality is incredible: from an average life of 90 and 110 in the earlier years of our first acquaintance with these people, we now find them rarely exceed the ordinary average life even in this country. The same may be said of our North American and South African colonies; and, in addition to the introduction of our artificial mode of life, disease and dissipation have kept pace. Since the use of animal food has been made known amongst our new acquaintances in all parts of the dependencies of Great Britain, so likewise do we find an increased mortality from fevers and inflammatory diseases not previously indigenous or prevalent amongst natives of those countries. In Circassia, Lapland, Terra del Fuego, and other remote countries not yet vitiated by European luxuries, we find very little variation in the average of vital statistics; and amongst these simple livers the ordinary range of man's life is that of men of fourscore years and more. Fish oil and blubber constitute the diet of the Esquimaux and the Terra del Fugeans, with very little fruit and vegetable. They are an active, lively, healthy people, though exposed to very variable ranges in temperature, and not the most agreeable climates, generally cold and humid, with much snow, frost, and rain, frequent stormy seasons, with a temperature very low, and never approaching our ordinary moderate spring or autumn weather. It thus appears to us, that there seems no doubt on the subject, that, as our luxuries increase, so will our diseases; and it is remarkable that this has also an influence not only on our lives, but on our population. A French writer who has paid some attention to the subject states that, in the ratio of the poverty and simple fare of living of a people, so in a like proportion will they increase and multiply, and that high or luxurious living is prejudicial to a healthy or enlarged population, and instances the large number of children in the poorest families and districts compared with those in the most opulent and wealthy localities or families. Compare the consumption of animal food in London with that of the continental large cities, and see the disproportion. In M'Culloch's Dictionary of Commerce, it is computed that, exclusive of pork, poultry, and fish, each inhabitant of London consumes annually one hundred and seven pounds of animal food; while Chabrol calculates the quantity consumed at Brussels to be eighty-nine pounds, and in Paris eighty-six pounds. Taking into consideration, then, the mode of life of our citizens as compared with those of other cities, the impure water, the adulterated liquors, the inferior meat, and unwholesome fish, obtainable by the lower classes, their very unhealthy dwellings, and many other incidental circumstances that will obviously recur to any one who reflects on these subjects, these are only so many sources of astonishment and gratitude—first, for the comparative salubrity and freedom from all the ills to which human flesh is heir to; and, secondly, for our being as healthy as we are.

In acknowledging this state, it is due to the national character of our country to say that much of this is owing to our invaluable public charities, and, though last, not least, to the indefatigable zeal and devoted regard to the discharge of their arduous duties in the cause of suffering humanity by the members of the medical profession. As science, then, advances, and charitable institutions multiply, so, in a like ratio, will man's life be prolonged, even under the most unfavourable circumstances.

ON SCROFULA OR STRUMA;

ITS NATURE, VARIETIES, CAUSES, AND TREATMENT.

By William Smith,

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> ———" Licuit, semperque licebit
> Parcere personis, dicere de vitiis."—Horace.

In the wide range of medical science there is probably no subject more worthy the serious attention of the profession, or of more vital importance to the welfare of the community, than that of scrofula or struma. Whether we look at the number of children (infants) yearly sacrificed to the ravages of that insidious and often intractable malady, hydrocephalus; to those a little more advanced in years who succumb to tabes mesenterica or marasmus; or, finally, if we contemplate the many beautiful, highly accomplished, and often intellectually-gifted individuals of both sexes, prematurely, and in the full zenith and meridian splendour of their existence, precipitated into the abyss of futurity by that fell tyrant, pulmonary consumption, we cannot but admit that the subject is one demanding our deepest study and attention. Having for upwards of five years resided in a densely populated district, where the manufacturing interest is in full operation, and consequently employing the great bulk of the population—men, women, boys, and girls, many of the latter of an extremely tender age, notwithstanding the vaunted efficacy of certain legal enactments duly made and provided in such cases, but which wealthy and (politically speaking) influential millocrats of the Manchester school contrive to evade or set at naught; and, moreover, feeling strongly convinced from close personal observation that the Factory System on a large scale has a decided tendency not only to shorten life, but to give rise to a stunted, diseased progeny, either by originating de novo, or calling into active operation the latent seeds of scrofulous disease, I take leave to record the result of my experience in the numerous forms of that disorder. Of all the maladies which come under the observation of the medical practitioner, no one is more preeminently and indisputably a constitutional disorder, and consequently (it, or the scrofulous diathesis) more readily transferable from generation to generation, than scrofula. No person, I think, who has seen much of the disease upon a large scale, will for a moment doubt the truth or accuracy of this proposition. That many practitioners do not sufficiently bear in mind, or fully appreciate, the vast importance and practical utility of an accurate knowledge of hereditary predisposition to disease, is an opinion which I have in several previous communications repeatedly expressed; and a more mature experience of actual disease, and extended study of medical literature, only tend to confirm that conviction. Scrofula, then, like insanity, syphilis, gout, cancer, &c., is essentially a constitutional or blood disease, and readily transmitted from parent to child, and may even be distinctly traced through two, three, or perhaps, four generations. How frequently do we find whole families swept off—annihilated, as it were—by that grim tyrant, consumption; or two, three, or it may be even more children of one family, carried off in succession (probably at a particular age) by hydrocephalus! Is it, then, a matter of no importance to the judicious and enlightened practitioner whether he have a sound constitution to work upon, or that the blood, the lymphatics, and the system generally, be thoroughly saturated with the scrofulous virus, the materies morbi?—where, in fact, a train of combustible materials has been laid in the circulation, the absorbent, or the nervous system, in one, more, perhaps all of them, which only requires a strong predisposing or exciting cause to light up the whole edifice into a lurid and widely devastating flame.

During the last few years of my professional practice, on every occasion of being summoned to a patient bearing the marks or external characters of the strumous diathesis, I have never considered my professional duty strictly performed, or the case fully investigated, until the relatives or the patient have been carefully questioned as to the particular disorders which might have affected the patient, his family, or progenitors. But here I must admit, with the learned Dr. Burrows, that the difficulty of obtaining satisfactory information, and the mystification frequently thrown over the subject by patients and their relatives, have proved excessively annoying. In the good old times, when the family surgeon was usually retained for life (except under very peculiar circumstances), and viewed more in the light of a faithful and confidential friend than a mere hired adviser, an observant practitioner would know these matters from personal intercourse and observation of the family; but, in these bustling days of railways, electric telegraph, and air-bubble speculations, when people change their doctors with much less compunction than their cook, butcher, or baker, and perhaps try half a dozen in rapid succession, things are very different. Dr. Watson, in his admirable Lectures on the Principles and Practice of Physic, pages 201-2, remarks:—"The persons in whom scrofulous disease is most apt to declare itself are marked during childhood by pale and pasty complexions, large heads, narrow chests, protuberant bellies, soft and flabby muscles, and a languid and feeble circulation. They present many of the features belonging to that pattern of body which is denominated the leucophlegmatic. But the strumous disposition very often indeed occupies a variety of the sanguine temperament also; and is indicated by light or red hair, grey or blue eyes, with large and sluggish pupils, and long silky lashes, a fair transparent brilliancy of skin, and rosy cheeks. This red colour, which is well defined in general, is easily changed, however, by cold to purple or livid; the skin is thin and easily irritated; the sclerotic has often a peculiar pearly lustre, and the extremities are subject to chilblains. Such children are many of them extremely clever and ready of apprehension, of eager tempers and warm affections—lively, ardent, imaginative, and susceptible. This precocity of mind and intellect, while it delights the fondness of the parent, awakens the fears of the more far-seeing physician.

"There are several alleged marks of a scrofulous diathesis, which are, in fact, instances of scrofulous disease. Such, for example, is that chronic lippitudo, which so frequently disfigures strumous children, rendering them what is called blear-eyed; and chronic inflammation of the conjunctiva, lasting long without much redness or heat, and with extreme impatience of light, and a tendency to form little pustules near the edge of the cornea. The tumid and chapped upper lips, the redness and swelling of the columna nasi, and lower parts of the nostrils, so common in children, especially during winter, are early fruits of the strumous taint. Certain maladies of the joints—what are popularly termed white swellings—are instances of scrofulous disease. So may, perhaps, rickets be considered; at any rate ricketty children are very often affected with scrofula also. Moist eruptions behind the ears, chronic enlargements of the glands of the neck, that slow eating ulceration of the nares termed lupus, may all be included within the class of strumous disorders. When any one of these scrofulous affections has once shown itself in any person, we know, by that circumstance, that he possesses the strumous constitution; and we look for the recurrence of his complaint in the same part or in other parts.

"In a former lecture I mentioned scrofula as one of those distempers the hereditary tendency to which is indisputable. The scrofulous diathesis is hereditary; and sometimes scrofulous disease is so, too. I have seen lungs taken from the body of a fœtus stuffed with tubercles. There were some fine examples of this in Mr. Langstaff's museum in the City. We have, therefore, in respect to scrofula, the rare conjunction of congenital disease, and hereditary disposition. I need not repeat here the remarks I made before respecting hereditary diseases in general. No one of the least observation can doubt that the disposition to consumption is very often transmitted from parent to child. We see whole families swept away by its ravages. Like other hereditary tendencies, it may skip over one or two generations, and reappear in the next, just as family likenesses are known to do. There are other families in which you can trace no such predisposition; but such families are perhaps few: a little leaven is sufficient sometimes effectually to taint a whole pedigree. The tendency, however, exists in various degrees. It may be so strong that no care, no favourable combination of circumstances, will prevent its local manifestation; and it may be so faint, that it would never break out into actual mischief if the exciting causes of scrofulous disease could be warded off. It is important, therefore, to know what these exciting causes are. 'They may be all ranked together' (to use the language of Dr. Alison), as causes of debility acting permanently or habitually for a length of time, although not so powerfully as to produce sudden or violent effects.' The circumstances to which, acting separately or in combination, we most confidently ascribe the power of developing scrofula, are insufficient nutriment, exposure to wet and cold, impurity of the atmosphere, the want of natural exercise, and mental disquietude. To estimate the separate effect of each of these causes may be difficult; but their combined influence is unquestionable. There can be no doubt that improper diet, or rather imperfect nourishment, is one main exciting cause of scrofulous disease. Yet of this it is not an easy thing to obtain evidence which shall be entirely free from fallacy. The disease occurs very often among the poor; but then it very often occurs also in the families of the rich. There is one fact which has always struck me as very instructive and convincing on this point. Infants at the breast, having good milk and plenty of it, seldom show any signs of scrofulous disorder; whereas, as soon as they are weaned, they become subject to various complaints of a strumous kind. Query—Is not scarcity or defective quality of milk or other food after weaning a fertile source of hydrocephalus in infants and very young children? When an unweaned child is brought to us with ophthalmia, we expect almost always to discover inflammation of the common and acute kind—the purulent eye. In nine children out of ten who come after weaning, we look for and find some form of scrofulous inflammation—such as pustular ophthalmia. The greater prevalence of scrofulous disease among the poor may be ascribed, in great measure, to their frequent exposure to wet and cold. Scrofula seldom breaks out in the mild and dry weather of summer. The influence of climate in fostering or repressing the disease is notorious. There is no climate in which it flourishes more than in our own. Consumption is called in some parts of the Continent the English disease. Persons who migrate from this country to warmer and more equable climates seldom become scrofulous; nay, it very often happens that the incipient indications of strumous disease are completely arrested or quieted by the change. Phthisical patients, much troubled by symptoms here, are sometimes so thoroughly freed from them soon after their arrival in Madeira, as to be deceived into the belief that their case had been mistaken. They think themselves well; a return to this country undeceives them. The native inhabitants of hot regions are by no means, however, exempt from struma in any of its forms. When they come into these latitudes they are more subject to scrofula than we ourselves are. And the same effect of climate is very distinctly visible in the lower animals. The physicians in ordinary to the inmates of the Zoological Gardens will tell you that the beasts and birds which are brought hither from warm latitudes, perish in great numbers from scrofulous diseases. John Hunter observed this long ago in respect to monkeys. Of the debilitating influence of impure air I spoke in a former lecture. That it promotes the evolution of scrofulous disorders we have proof on a large scale in the great mortality produced by such disorders among the lower classes in large cities as compared with agricultural districts. The per centage of deaths from consumption, hydrocephalus, and various other diseases which spring from a strumous habit, is much greater in London than in the country. Even in individual cases this influence is too manifest to be overlooked or mistaken. It is impossible to question the beneficial effect, upon children afflicted with scrofula, of a removal to the sea coast."

The above judicious and practical remarks, from the excellent lectures of Dr. Watson, are quite in accordance with the facts presented to my notice during more than fifteen years' extensive observation of disease; and I humbly conceive that the extensive diffusion (through the medium of our well-conducted medical journals) of doctrines emanating from so high an authority as Dr. Watson, and stamped with his large hospital and private practice experience, will confer a greater boon upon medical science, and prove more instructive to the rising generation of practitioners, than the crude though strictly original views of younger yet less experienced men. Having spent many years of my early professional life in agricultural counties, and, moreover, discharged the duties of Union medical officer over extensive districts, in Lincolnshire and Hertfordshire, purely agricultural counties, I can strongly corroborate the statements of Dr. Watson, as to the greater prevalence of, and larger mortality from, scrofulous disorders in crowded and populous cities as compared with a rural and agricultural population. And here let me remark, as by no means *germane* to the subject of scrofula, the injurious, nay, destructive effects on the health and physical stamina of the labouring classes of that most unrighteous and infamous extortion—the window-tax. In such places as London, Liverpool, Manchester, Stockport, Sheffield, and especially the densly populated, ill-ventilated, and filthy back streets, and *cul-de-sacs* of our over-grown manufacturing cities, how many thousands of wretchedly clad, ill-fed, and stunted-growthed, mill-hands, artizans, and mechanics, have been sacrificed at this Juggernaut car, or shrine of political imbecility! Why not lay an embargo upon the very air we breathe, and tax the people for every cubic inch they consume? Save and excepting the asinine race, John Bull is the most patient animal in the universe!

It has often occurred to me, whilst reflecting upon the difficulties and perplexities which beset my student path, whilst endeavouring to acquire a general knowledge of the grand principles of our art, and the great divisions and (as it were) landmarks of disease, that the practice of treating of consumption, hydrocephalus, diseases of the joints, tabes mesenterica, pustular ophthalmia, &c., in distinct monographs, as if they were separate entities or affections, and not, as they really are, mere fragments of one grand constitutional disease, however useful in some respects, has, nevertheless, "had a tendency to narrow our views, and to cripple our practice, by setting up as many several pathologies within the body as there are organs." For, as that sagacious physician, Dr. P. M. Latham, remarks, in the preface to his excellent Lectures on Diseases of the Heart—"No sooner do the diseases of separate parts come to be treated, than they begin to claim their place in a common pathology. We cannot reach them, and apply our remedies directly to them, in the isolated spots wherein we find them; but if they are to be reached and treated at all, it must be through the vascular system, or through the digestive and assimilative system. For these are the common agents of life and increase, both healthy and unhealthy, and the common channels both of food and of medicine."

Now I have already, in several previous communications to the Medical Gazette on the subject of mental disorders, brought this argument of Dr. Latham's to bear upon my own views of disease; and surely the same fundamental principles which guide us in the treatment of insanity are equally applicaple to that of scrofula: for, as the experienced Dr. G. M. Burrows, in his able Commentaries, and other eminent physicians well versed in psychological medicine, have declared, the two diseases are most intimately and inseparably united; nay, some have even gone as far as to place them in the relation of cause and effect. Be this as it may, no one who has seen insanity on a large scale will deny that the most aggravated and incurable cases of mental derangement are invariably met with in persons of the strumous diathesis: and I strongly incline to the opinion, that a more accurate investigation of the connection existing between scrofula and insanity would amply repay the superintendent of any pauper lunatic hospital who would specially direct his attention thereto. In an excellent essay on scrofula, by Dr. Shapter, contained in the fifth volume of the Library of Medicine, I find the following pertinent remarks:—"With regard to mental disorders, Dr. Cumin says they claim an alliance with scrofula which has not been sufficiently attended to. He states, on the authority of a physician eminent for his knowledge of these disorders, that more than one-half of those who are subject to mental derangement are of a scrofulous constitution, the existence of which is manifestly indicated in these persons; and that scrofulous symptoms often alternate with attacks of mania; that purulent expectoration has often ceased during the urgent symptoms of insanity; and, on the other hand, reason has been restored before the pulmonary disease proved fatal. With the view of elucidating this, Dr. Cumin examined all the paupers of a lunatic establishment. Of forty-four females, exactly one-half presented indurated or enlarged glands of the neck or throat, and several had extensive scrofulous cicatrices. Of forty-six males, twenty-eight had no decided symptoms of scrofula, though several had the strumous aspect: sixteen presented the marks already mentioned. In reference to the females, two belonged to families known to be afflicted with scrofula in an aggravated form. All of these ninety lunatics were adults, and not one of them exhibited any active symptoms of scrofulous disease. It appears, however, from the above, that mental disease is not promoted by scrofula though occurring in the same subject, nor scrofula promoted by mental affections: on the contrary, when one disorder was in a state of activity, the other was at its minimum intensity. In confirmation of this it has been observed that, where insanity has occurred in families eminently scrofulous, the least strumous were its victims. Epilepsy is another occasional complication of scrofula. Dr. Cheyne goes so far as to think it as certain a manifestation of the strumous diathesis, as tubercular consumption itself. We cannot, however, view it in so strong a light. There can be no doubt that many—nay, most—so afflicted, present strong characteristics of the strumous constitution; but, on the other hand, it occurs in those who can in no way be said to have this taint. Dr. Burrows, speaking of the physical causes of insanity (p. 96 of the "Commentaries"), remarks:—"Scrofula very frequently extends to the brain, and then incurable insanity commonly follows. Now many physiologists insist that this organ is a gland; and when scrofula attacks the glands, we know that it renders them unfitted for the particular function assigned to them. Cannot the brain be affected by scrofula in the same way? This is certain; that insanity grafted on scrofula is always very obstinate, unless it finds a solution in the suppurative process."

Whilst on this subject I cannot resist quoting some excellent remarks of Dr. Latham, contained in the first volume of his "Clinical Lectures," published in 1836. In concluding a brief, but very graphic sketch of pulmonary consumption, he observes:—"In proportion as we are more intent upon investigating the local processes of diseases in a particular organ, scrutinizing them pathologically, and nicely weighing their diagnostic signs, there is a danger that our minds may be withdrawn from those larger views which regard their constitutional origin, and their consequent liability to fall upon any or all organs of the body. Thus, while we are expecting a man to die of pulmonary consumption a twelvemonth hence, he may die in the meantime of (if I may so speak) intestinal consumption, peritoneal consumption, mesenteric consumption, or vertebral consumption; for, from the same strumous constitution which engendered tubercles and vomicæ in the lungs, tubercles and ulcers are formed in the mucous lining of the bowels: hence comes incontrollable diarrhœa or dysentery. From the same cause tubercles are formed upon the peritoneum, and tubercles in the mesenteric glands: hence come slow peritonitis, and ascites, and marasmus. From the same cause caries affects the bodies of the vertebræ: and hence comes lumbar abscess. All these are liable to arise in the course of pulmonary consumption, and the fatal event may be greatly accelerated in consequence: not that, from arising in the course of it, they are to be regarded as merely incidental to it; for both it and they are all of the same essence,—the several products of the same morbid constitution, sometimes one, and sometimes another, taking the lead; pulmonary consumption as often following these as these following it. Finally, then, pulmonary consumption is no more than a fragment of a great constitutional malady, which it would be in vain to think of measuring by the stethoscope, and which it belongs to a higher discipline than any mere skill in auscultation rightly to comprehend."

Taking these sound and judicious remarks of Dr. Latham as our chart or compass, what an accurate insight into the hitherto hidden things (penetralia) of disease are we enabled to obtain, and how much more simple and comprehensive are the therapeutical indications deducible therefrom.

Some months ago I drew out a broad outline of the paper now submitted to my readers, and, in my private notebook, sketched a rough classification of the various forms in which scrofula is found to affect the human frame, proceeding *a capite ad calcem*. 1st. The brain or its membranes, or both, as in the various forms of mental derangement, acute and chronic hydrocephalus. 2d. The eye, eyelids, and lachrymal apparatus, as in strumous ophthalmia, some forms of iritis, conjunctivitis, lippitudo, or blear-eye, &c. 3d. The nose, as in lupus, or noli me tangere. 4th. Inflammation and subsequent ulceration of the cervical glands, resulting in those unsightly scars and cicatrices so frequently observable in persons of the scrofulous diathesis. 5th. Tubercular deposits, ulceration, and absorption of the substance of the lungs, producing vomicæ, cavernous sinuses, &c., commonly designated pulmonary consumption. 6th. Tuberculous deposits in the mesenteric glands, or tabes mesenterica, or in the peritoneum, causing chronic peritonitis, ascites, &c. 7th. Tuberculous deposits and subsequent ulceration of the mucous lining of the intestines, giving rise to colliquative diarrhœa, dysentery, &c. 8th. Ulceration and absorption of the bodies of the vertebræ, occasioning psoas and lumbar abscess, and satisfactorily accounting for probably more than three-fourths of the beautiful, highly accomplished, and (but for this dreadful scourge) fascinating victims of spinal disease, belonging to the middle and higher orders of society—that rich booty for those rapacious and (with a very few rare exceptions) unprincipled harpies, the spinal doctors, inventors of spring couches, gymnastic exercises, &c., *et hoc genus omne*. 9th. Inflammation of the synovial membranes, ulceration, and subsequent absorption of the cartilages covering the articulating surfaces of the joints—in vulgar parlance, white swellings. Now, although I thoroughly abominate all minute divisions and subdivisions of disease, as tending only to perplex the student, and make confusion worse confounded, yet surely such an arrangement as this would facilitate the investigation of disease, and, in place of treating the local affection (as in consumption, or tabes mesenterica) and nothing else, the constitutional character of the malady would always be borne in mind. Take, for example, hydrocephalus: in nine cases out of ten we meet with the disease in children of the strumous diathesis. Now I will venture to assert—and I say this advisedly—that many a child has been prematurely sent out of the world by the *nimiâ diligentiâ medici*. But how? it will be naturally asked. Such cases have been viewed as acute inflammation of the brain, without taking into account the strumous diathesis accompanying, or perhaps giving rise to, the malady; and the patients have been bled most unmercifully, *iterum iterumque*, and afterwards salivated, if Hydrarg. C. Cretâ, or calomel internally, and Unguent Hydrarg. Fort. to the scalp, would effect this object. Happily, perhaps, for the little victims exposed to this rigorous discipline, the mercury usually makes a speedy transit through the system in the shape of chopped spinach stools. I have had abundant opportunities of observing the disease, and, having acted as visiting assistant to several practitioners, also witnessed its treatment under different phases. For my own part, my practice during the last four or five years has been greatly modified and divested of much of of its former rigour, and I can conscientiously declare the result to be a much higher ratio of cures, and fewer deaths. I care not what the exact disease may be,—persons of the scrofulous diathesis have very little tolerance of blood-letting, or any other powerful depletive. And yet how many young practitioners,—ay, marry, and old stagers, too!—employ heroic remedies in hydrocephalus, never troubling their brains as to the constitutional character of the malady. And what is the result?—Why, in many instances, the child is regularly drained of its blood—the *pabulum vitæ*; it becomes completely exsanguine, convulsive fits set in (of a like character to the expiring throes of the poor sheep with the butcher's knife sticking in its throat), and dèath speedily closes the scene: the child dies, not so much from the effects of the disease as from the abuse of the remedies employed. I am not Quixotic enough to assert that blood-letting and salivation "are never necessary, never justifiable, and always injurious, in all cases of hydrocephalus whatever;" but still I do think that more moderation is required in the matter of depletion. Venesection by leeches at the very onset, followed by a hot bath effectually applied; an emetic (of ipecacuan, if the child be very young), or combined with tartar emetic; small doses of the hydrarg. c. cretâ, or the grey powder, combined with calomel, every five hours; free purgation with senna and salts, or the tartrate of potash, so as to produce copious serous evacuations; evaporating lotion or vinegar and water to the shaven scalp; and last, though not least, great moderation in the applications to the breast, or a very careful allowance of food, if weaned, will very generally bring the little sufferer through. I believe many children are lost by the mother's allowing the child frequent—nay, almost incessant, access to the breast. The child is in great suffering, and knows not where to turn for relief; as a *dernier ressort*, it frantically grasps at the teat—often to the intense agony of the mother, as I have repeatedly witnessed. The child's stomach, rendered hyper-irritable by disease, ejects both milk and medicine. I invariably visit such patients (if in the town) three or four times a day, and lay great stress on their being allowed the breast as seldom as possible, recommending in preference their being fed by a teaspoonful at a time, with a little plain barley water, containing a small quantity of spirits of nitre. As regards the application of cold to the shaven scalp, the clumsy and neglectful manner in which this important remedial agent is employed generally neutralises any benefit that might be hoped for from its use. How frequently do we find, at our next visit, two or three layers of coarse linen, or even calico, employed, and those nearly dry, or smoking and reeking like the hide of an over-driven mail coach-horse on a frosty morning? Such management, in place of cooling the head, can only add fresh fuel to the existing fire. We see on the wrappers of our medical journals smart drawings of waterproof cushions, caps, &c.; but neither mothers nor nurses can keep them in working trim. We ourselves once procured for the Lincoln Asylum two very expensive and elaborate cushions of waterproof material, which were warranted to save a multiplicity of labour and attention; but, alas for the vigilance, diligence, or carefulness of nurses, they were speedily rendered *hors-de combat!* That milk, impure, impoverished, or deficient in quantity, or (after the period of weaning) improper food, have a tendency to produce hydrocephalus, no man who has seen much of the disease will deny. Hence the children of factory women, and females employed in large hosiery warehouses—of which Belper contains two very large establishments—who put out their children to nurse, in order to pursue their usual occupation with as little interruption as possible, are particularly liable to its attacks. Another great evil in manufacturing districts is the frequent occurrence of marriage amongst girls often little more than 14 and 15 years of age, and frequently—nay, very generally—at 16 or 17. What evils may we not anticipate to the physical system of the mother, when the reproductive functions are called into action at this early age! What stronger proof of the deteriorating effects on the physical formation and stamina of the population contained in the pent-up and squalid alleys and courts of our large manufacturing towns, can we require, than the fact that officers on recruiting service invariably lay wait for the stalwart plough-lads of agricultural counties, such as Yorkshire, Lincolnshire, &c. &c., but reject the quicker witted, but physically depraved denizens of the crowded city. Were it not for the frequent and liberal infusion of fresh vigour and sound stamina by copious drafts from the rural and agricultural districts, I verily believe our over-crowded and densely populated cities would speedily be inhabited by a race of semi-pigmies!

[To be continued.]

Belper, April 1851.

ON THE OPERATION OF TRACHEOTOMY FOR ŒDEMA OF THE GLOTTIS.

Dr. S. Parkman recently performed this operation on a man thirty-two years of age, who reported that he had been suffering from dyspnœa for seven weeks. On his entrance into the hospital, the dyspnœa and dysphagia were extreme; most of the fluids attempted to be swallowed returning through the nostrils. The fauces presented extensive cicatrices of syphilitic ulceration, which had destroyed the pendulous palate and the pillars of the isthmus. By the finger the epiglottis was felt swollen, and there was a sensation as if it were ulcerated. In the front of the larynx there was a small abscess discharging pus. There being no relief from the remedies employed, of which cauterization with nitrate of silver was the most active, and death appearing imminent, tracheotomy was performed, and a tube inserted. The relief was immediate, and the patient at once fell asleep, and remained so for eight or ten hours. The relief was not permanent, and the patient died with symptoms of pneumonia of both lungs, on the second day after the operation. The larynx, examined after death, presented some œdema, but the cause of the dyspnœa was seen in the thickening of the epiglottis and the edges of the glottis, from long inflammation. There was pneumonia of both lower lobes.—*Amer. Jour. Med. Sc.*

MEDICAL GAZETTE.

FRIDAY, MAY 9, 1851.

THE Fellowship question, as it affects Members of the Royal College of Surgeons, has been again brought forward in a new aspect, and an attempt is apparently about to be made to resist the progress of medical legislation on what appears to us to be an unreasonable pretext. Under the new resolutions, it has been proposed by the College to admit to the Fellowship without examination, all members whose diplomas are dated at any time before September 1844, as they shall respectively acquire a membership of twenty years' standing. Those whose diplomas are dated subsequently to September, 1844, cannot become Fellows *except by examination*. A practice of twelve years will entitle them to present themselves for this examination: and in those cases in which the lengthened course of study, prescribed by the College, has been pursued, a candidate may present himself for examination on having attained the age of twenty-five years.

The complaint now made, is to the effect that, under these resolutions, gentlemen who have become members within the last seven years, will not have the privilege of the fellowship when they have reached the probationary period of membership. The College, it is contended, should treat as *members* those who had commenced their professional *studies* prior to the charter of 1843, and confer on the students of that period the same right as they propose to confer on men who had already acquired the diploma. If this reasoning be good, we do not see how the College could limit the grant of the fellowship by time, to gentlemen who happened to be studying their profession at the date of the charter. Such students could have no stronger claim upon those who were to exercise the powers of the charter than gentlemen who commenced their studies at any subsequent period. The student of October, 1844, might complain of the concession of this privilege to the student of October, 1843; and it would be hard to say why one should be admitted and the other excluded, when both would be equally unrecognised as *members* of the College, and neither would have any kind of claim, legal or otherwise, upon the Corporation. It would be ridiculous, therefore, and manifestly unjust, to make studentship prior to the charter a ground for claiming the privilege, if studentship subsequently should not be allowed to have a similar claim. There is no escape from the conclusion, either that the resolution must stand as it is, *i. e.*, denying the fellowship except by examination to all who may become members of the College, and who thus acquire a legal and well defined connexion with the Corporation after a fixed date,—or a new resolution must be passed admitting members of any date, who have been engaged a certain number of years in practice.

The effect of the last-mentioned plan would be, we believe, to do away with the fellowship by *examination* altogether: a man would simply obtain his diploma as member by the ordinary course of study, and then "bide his time" for the fellowship, which would, as a matter of course, fall to his share in fifteen or twenty years, without the necessity of further preparation. Under such a state of things, the object of establishing the fellowship—*i. e.*, to create a class of more highly educated surgeons—would be effectually defeated. This would surely be a retrograde movement. At any rate, before the proposition is made to the College of thus "liberalising" their institution, some precedent should be adduced of a British College or University of repute allowing one man to gain, by an easy course of study and a few years' waiting, an honour which another could gain only by a lengthened course of study and a rigorous and searching examination. Is it a general, or even a reasonable rule, that there should be two roads to the fellowship of a College—one which confers the honour merely as *a result of time*, and without inquiry into the skill and knowledge of the candidate; while another demands actual proof of this skill and knowledge, and enforces a lengthened and elaborate course of study, in order to ensure it? If such a precedent can be brought forward, the College of Surgeons may probably be induced to concede the point, as their pecuniary interest evidently lies in throwing open the gates of the fellowship as widely as possible. We are told that two or three thousand gentlemen—say 2500—have been admitted Members of the College since the charter was granted. Now it is not intended that any member should take the fellowship without the payment of a fee of ten guineas. Hence this liberal proposition implies that the sum of 25,000 guineas should, sooner or later, be added to the coffers of the College, exclusive of the fees which they would receive under their new resolution!

The College, in proposing to admit to the fellowship without examination members who were such before September 1844, are merely redressing what was almost universally considered to be a wrong to those who held the diploma at the time of the new charter. They are not advocating the principle that *time alone* should confer upon all an honour which they intend in future to confine to a more highly educated class of men. It is felt, we presume, that there has been retrospective injustice, and that this is the best remedy of which the case admits. Whether in the new Charter it be or be not desirable to restrict the future fellowship to examined candidates only, or to throw it open to all by lapse of time, is a question for the consideration of the profession. Which plan would be productive of the greater benefit to the profession? Which plan is more consistent with common sense and the ordinary practice of our Universities and Colleges? No lapse of time as a Licentiate renders a man a Fellow of the Royal College of Physicians,*—no lapse of time converts the M.B. of the University of London into the M.D.,—finally, no lapse of time, so far as we know, secures to the candidate who has pursued the minor course of study, and gone through the minor examination, privileges which are exclusively attached to the major course of study and examination; yet this is what is now alleged to be desired, and because the object is not conceded, an attempt is made to convert it into a serious grievance.

If the College regarded money only, their interest lies in making the concession at once; but the fact that they require the examination as a test for the admission of all future fellows, is a clear proof that they are actuated by higher and better motives. In this, we contend, they deserve to receive the unanimous support of the profession.

Let it be duly considered that the present examination for the *membership* is treated by a certain class of persons as inadequate to the wants of the profession: it is declared in no mild terms that it is wholly insufficient to test the qualification of the candidate to practise his profession; that the diploma is worthless and of no repute, and yet it is at the same argued, that the mere *standing* of one who has obtained this diploma of member, should give him as good a title to the fellowship as he who obtains the honor by hard study nad a severe examination! The course of the College is plain: there must be no inequality in education and examination, when the same honours and privileges are in question. The most sturdy champions of reform agree in this point: it has been the rallying cry of English, Irish, and Scotch reformers since the promulgation of Sir James Graham's first bill. Hence if *standing* alone, is to have the same weight as an *examination*, then the College must raise the course of study and examination for a member to that which is now laid down for a fellow. It is obvious that this must be done, or the fellowship will be no criterion of the education or position of the individual who holds it: and if it be done, all Members will henceforth be Fellows, and all Fellows, Members; so that, in point of fact, Membership will be synonymous with Fellowship.

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* A certain number of fellows are nominated yearly from among the licentiates; but no licentiate can claim the fellowship as a right. The College of Surgeons might reasonably retain a power of nomination in their new Charter without sacrificing the principle of examination.

With regard to the date fixed for the admission of Fellows by lapse of time, we think the College have acted equitably, and for the benefit of the Fellowship, in limiting it to men who were Members before September 1844. The Members of that date were affected in their rights and privileges by the new rules which were then promulgated: they could not alter their position. This cannot, however, be said of gentlemen who had only then commenced their studies. They had acquired no prospective rights, and therefore could not be affected by a new charter issued to a College of which they were not Members, and on which they had at the time no more claim than on the Royal College of Physicians or the University of London. They are not justified in complaining of the College for merely remedying a grievance which had created great dissatisfaction amongst the old members; it is said they (the students of 1843) might have "shaped their course" differently had they known that the College intended at some future time to perform this act of justice to its old members. We do not quite comprehend what this means, but the students of that period were certainly not compelled to join a College which had thus dealt unjustly by its members; and if they voluntarily joined it with a knowledge of these circumstances, it is surely out of their power to complain of the College having tardily granted to some of its members those privileges which should have been conceded by the Charter of 1843. We do not, however, anticipate that this newly invented grievance will find much favour with the profession, or retard the progress of medical legislation.

Reviews.

Observations on Diseases of the Rectum. By T. B. Curling, F.R.S.; Surgeon to, and Lecturer on Surgery at the London Hospital. 8vo. London. Highley. 1851.

Mr. Curling's intentions in the publication of this work may be learnt from the following extract from the preface.

> "Although the subject has been mu and ably written on, I have been assur that such a work, founded upon adequa observation, and including modern improvements in treatment, would be acceptabl t the younger members of the profession."

The scope of the work is not that a complete treatise, including all th has been said and written upon the su ject; but it is that of a practical e concisely setting forth an account of th principal changes that take place in t structure of the rectum, and of t symptoms and treatment of its m important diseases, and conveying sound pathological views as cannot to lead to judicious practice.

The introductory observations include instructions relative to the mode of instituting examinations of the bowel, and on the use of the speculum for that purpose.

The first form of disease on which the author treats is "*irritable ulcer of the rectum*:" this is clearly described. With regard to treatment Mr. Curling remarks:—

> "The ulcer seldom heals under the influence of local applications. The treatment necessary is a longitudinal incision through its centre, including the sphincter muscle. The object of the operation is to place this muscle at rest for a time, and to enlarge the passage and displace the sore; thus removing those sources of irritation which prevent its healing. An incision, it is true, is not invariably required; but in all cases in which the pain is considerable, and in which there is much spasm of the sphincter, the attempt to procure the healing of the sore by local applications so often protracts the patient's suffering, and so constantly ends in failure, that it is not desirable to make it."

The manner of performing the operation, and the after treatment of the case, are very fully laid down by the author.

"Spasm of the sphincter muscle," is the topic which next engages the reader's attention. This is a very painful affection, which the author rightly considers to be usually dependent upon some local irritation. The treatment recommended byMr. Curling is a mild laxative, and the local application of sedatives; and, in obstinate cases, the division of the muscle.

The chapter on Hæmorrhoids presents a full but condensed account of the characters and structure of their several varieties; of the symptoms to which they give rise; and of their treatment. Excision of internal piles, the author observes, is the quickest and least painful proceeding; but he justly adds—"there have been so many instances in which dangerous hæmorrhage has occurred after the removal of internal piles with the knife, that few good surgeons now advocate the operation, or venture to perform it." Ligature is undoubtedly "the safest and most effectual remedy" for the cure of internal piles. Mr. Curling gives ample instructions as to the manner of performing that operation. We may remark, that with piles of large size, we have found very successful results from the adoption of Mr. Copeland's plan of tying a portion of the growth; the inflammation thereby set up causes the removal of the remaining structure. The operation is less painful, and is more easy of performance.

Prolapsus of the Rectum is next described, with the various palliative measures which are of service in that painful affection. The most efficacious, Mr. Curling remarks, is the excision of a portion of the mucous membrane.

Polypus of the Rectum follows next, and is then succeeded by the subject of Fistula. All the forms of this affection are well described, and traced to their sources. Mr. Curling states, that, notwithstanding the opinion of so high an authority as Sir B. Brodie, he has no doubt of the occurrence of fistula without communication with the bowel. We may add our own experience to that of the author: we have a case under our care in which no communication can be detected, neither does any reason exist to suspect the existence of such a communication. Mr. Curling directs attention to the difficulties which a variation in the form or direction of the sinus may present in treatment.

Chronic Ulceration, Stricture, Carcinoma, Impaction of fæces, and Anal tumors, constitute the concluding subjects of the treatise. The author discusses the nature and consequences of stricture, to which the rectum, in common with other mucous canals, is liable. The treatment by dilatation is carefully described, as is also the operation for artificial anus, which is sometimes required in those cases where stricture exists beyond the reach of the finger. The author states his preference for Littré's operation at the groin, over that of Callisen's in the lumbar region, and shows the former to possess the stronger claims upon the surgeon.

The author has, in our opinion, very satisfactorily succeeded in the execution of his task of producing a work which will be of use to the younger members of the profession, by bringing before them in a small space a clearly written digest of the most judicious practical information upon a very troublesome and painful class of affections. We are confident that the advice given by Mr. Curling will be found most useful in practice, in saving the time that is often lost in mere palliative measures, when, by the treatment here advocated, the sufferings of the patient may speedily be removed.

This book may be regarded as a most useful contribution to surgical knowledge.

The Process of Thought adapted to Words and Language, &c. By Alfred Smee, F.R.S., &c. 8vo. pp. 77. London: Longmans. 1851.

We wish we could give an analysis of this book; but we must fairly confess that it is beyond our power. The reduction of thought to algebraic formulæ, and the decision of disputed questions by a machine made of wood and furnished with pins, are suggestions so entirely novel, that we would rather refer the curious to the book itself than incur the risk of misstating the author's ingenious views.

The last Chapter contains some clever remarks on Logic and the Art of Quibbling; and the cases of Cardinal Wiseman and the Earl of Shrewsbury are brought forward by Mr. Smee in support of his conclusions.

Popular Medical Errors. By James Bower Harrison, M.R.C.S. Small 8vo. pp. 150. London: Longmans. 1851.

This, as its name implies, is a curious collection of popular errors on medical subjects. The author gives, under headings of all sorts, a description of the absurd notions which are strongly rooted in the minds of the vulgar as well as of those who have received a decent education. Some of these errors exercise a pernicious influence on medical treatment, and it is therefore the duty of the practitioner to combat them. We do not know that he can more effectually succeed in this object, than by recommending his patient to procure Mr. Harrison's little treatise, which is both amusing and instructive.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 1st May, 1851 :—Henry John Wilkin—Vincent Litchfield, Twickenham—Thomas Wilson Caird, Exeter—Thomas Lowe, Edgbaston—George Bull, Lewes—Peter Ambrose Cotterell, Birmingham.—Robert Leach, Martock—Philip Vincent, Camborne, Cornwall—Henry Spry Leverton, Truro, Cornwall—John Ansell Brown, London—William Garrard, Clifton.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

April 22, 1851.

The President in the Chair.

On the Application of the Heat of Electricity in Practical Surgery. By John Marshall, F.R.C.S.

The author narrates a case of fistulous perforation of the right cheek occurring in a young man, twenty-five years old, of a strumous habit of body, and resulting from a succession of abscesses. The case had been under treatment several months when he became out-patient at the hospital; and after two months' attendance there, under the care of the author, without improvement, the following plan was adopted :—A fine platinum wire, 1-50th of an inch thick, was passed through the fistula in such a manner that its ends could be connected with the poles of a Grove's battery, consisting of four cells, each having a platinum surface of thirty-two square inches, and a zinc surface of thirty-eight square inches. The galvanic current was kept up for nine seconds; but little pain was felt from the action of the heated wire; sloughs appeared at both orifices of the fistula; that on the inner orifice came away on the fifth day after the operation; the outer one was separated on the sixth day. On the eighth day the inner opening was closed; on the eleventh the outer opening was also closed. A smaller sinus, of fistulous nature, was discovered some days afterwards on the inner surface of the cheek; and, by a repetition of the operation, this was also cured within a fortnight. The author has been induced, by the success of the *electric cautery*, to employ it in cases of rectal fistulæ, and in both internal and external hæmorrhoids, and with similar success. He anticipates that its employment will occasionally be found advantageous, as compared with the knife, scissors, or ligature, in other cases where morbid growths require to be removed. A detailed description of the apparatus was given.

There being no discussion on Mr. Marshall's paper, a paper on the Effects of Chloroform in Phthisis, by Mr. Spencer Wells, and another on Chloroform as an Anæsthetic Agent, by Mr. Robert Dunn, were read.

On the Benefit derived from the Inhalation of Chloroform in a Case of Pulmonary Consumption. By T. Spencer Wells, F.R.C.S.

The case was that of a nobleman, thirty-seven years of age, who had suffered from symptoms of phthisis for more than two years, and who passed the winter of 1849-50 in Egypt and Italy, under the care of the author. During the month of May 1850, the patient being then at Rome, the extreme violence of the cough, and the very oppressive dyspnœa, uncontrolled by the usual remedies, suggested the trial of chloroform. The effect of the inhalation was very successful, and every repetition of its use was equally so; and during the remainder of the patient's life (about seven months), great alleviation of suffering was obtained from its use, without any ill effects being observed. At the special request of his patient the author has been induced to publish the account which the paper contains. He has likewise used the inhalation of chloroform with advantage in two cases of spasmodic asthma; and is altogether sanguine in his expectation that this agent will prove a valuable palliative remedy in such cases.

On the Inhalation of Chloroform, its Anæsthetic Effects, and Practical Cases. By Robert Dunn, M.R.C.S.

Before entering upon the consideration of the physiological effects of the inhalation of the vapour of chloroform upon the nervous centres, the author deems it expedient to premise some observations on the functions of the nervous centres themselves, with a view to the better appreciation of the application of chloroform to practical purposes. After stating the generally admitted threefold division of the nervous system into the physical, or excito-motory and reflex; the nutritive and secretory, or ganglionic; and the sentient, psychical, and voluntary, or cerebro-spinal system, he maintains that there is no point in physiology more clearly made out than that the great hemispherical ganglia are exclusively the seat of perception and its associate memory—the centre of intellectual action, and of all the operations of thought—"the sole receptacle," in the language of Cuvier, "where sensations become perceived and consummated," formed into ideas by their ganglionic action, and where the will exerts its power; but that they are neither the seat of sensation nor of motion. Of these, the former has its seat in the sensorium commune, or collection of sensory ganglia; and the latter, or motor power, in the corpora striata and anterior segmental ganglia of the spinal cord. Sensation is an act of simple consciousness—an attribute of the sensorium, and not of the cerebrum. The author says, "sensation and perception ought not to be confounded; the functions are perfectly distinct, and have their seats in different nervous centres. The former is sensorial, and affected through the direct agency of the sensory ganglia; the latter is mental, and exclusively cerebral. The mechanism (so to speak) of their action is different. While, in sensation, it is direct and single, each sensory ganglion responding directly to the stimulus received, or impression made on its ganglionic centre; in perception, a double ganglionic action is involved. The various sensations or impressions of the sensory ganglia, as the first step in the process, are transmitted through commissural connexions to the hemispherical ganglia; and there, as the second step, become converted, by the ganglionic action of the cerebrum, into ideas, which furnish incentives to intellectual action, and materials for thought. The corpora striata, thalami optici, and corpora quadrigemina, he says, are distinct cephalic ganglia, each exercising a different function, and that they, with the nervous centres of the special senses and the cranio-spinal axis, constitute the nervous apparatus of automatic life. The thalami optici and posterior segmental ganglia of the spinal cord are the great centres of tactile and common sensation; the corpora quadrigemina are not simply the ganglionic centres of vision, but also of simple emotional impulses, readily excited into action by sight, and independently of the cerebrum. He maintains that the sensatory ganglia are the seat of the emotional feelings, or, in other words, of the feelings of pleasure and pain associated with the emotional states; but he thinks, with Dr. Carpenter, that the true emotions, like the moral feelings and the animal propensities, are of a composite nature, involving an intellectual element, in all of which the feelings are of sensorial, and the ideas of cerebral, origin. The author then proceeds to inquire what are the feelings experienced, and the phenomena observed, during the slow and gradual inhalation of the vapour of chloroform. On this subject he adduces the testimony of Dr. Snow, and after giving the different degrees of narcotism noted by Dr. Snow, and the quantities of chloroform required to induce them, he goes on to trace the order and sequence of the effects of the inhalation upon the different nervous centres. The sensory and motor ganglia are the first to come under its influence. Sensation is suspended, and immunity from pain secured, while some degree of intellectual consciousness is still persistent. The function of the cerebrum, in the centre of intellectua action, is the next arrested, and coma supervenes—a total abolition of consciousness, reducing life to a series of automatic movements; after this, the medulla oblongata and true spinal centres become involved. The ganglionic system is the last to be implicated; but with the arrest of the peristaltic action of the heart life ceases. He next considers the conditions necessary to secure uniformity of effect, and perfect safety to the patient; these are, that the chloroform be pure, and that the mode of inhalation be slow and regular, with a proper dilution of atmospheric air; and he avers that there is not a single fatal case upon record where these conditions have been rigidly observed. The sources of danger are pointed out. The eye of the administrator ought never to be off the face of the patient. Chloroform destroys life as certainly as carbonic acid, if respired until the excito-motory and ganglionic systems come fully under its dominion. In the succession of effects, during its slow and gradual inhalation, the ganglionic system is the last of the sequence to become involved, and the contractions of the heart the last of the vital actions to be arrested; but the order is reversed when the lungs have been suddenly overcharged with the undiluted vapour, and the patient may die from the direct effects of the chloroform upon the heart, before insensibility has been produced, and the nervous centres of the encephalon effected. As the inhaled chloroform is again eliminated from the blood, and passes off unchanged by the lungs from the body, the author considers it may be fairly inferred, that it acts in its integrity as a whole, and not by its separate elements, upon the vesicular matter of the nervous centres; and that beyond the direct and immediate effects produced by its presence in the blood upon these centres, no lasting ulterior or injurious effects can reasonably be expected to result from its use. Its range as a therapeutical agent is in consequence limited, and its effects often transient; but present relief from pain is a boon to the sufferer, and its modus operandi in regard to the different nervous centres points plainly to the class of medical cases in which it has been found to afford relief. Neuralgia, spasmodic asthma, delirium tremens, hysteria, hysterical and puerperal, and some other forms of mania,—certain convulsive and spasmodic affections,—puerperal convulsions, chorea, epilepsy, and tetanus, are noticed, in which it has been administered with advantage. Still, the author remarks, it is chiefly, if not entirely, in the great majority of such cases, as ancillary to the adoption of more efficient curative measures, that we can view it in the light of a therapeutical remedy. But for the induction of anæsthesia, chloroform is a most valuable agent, and one which, for many obvious and cogent reasons, has superseded the use of ether in surgical and obstetric practice. Its use in operative surgery and midwifery is next considered; and a distinguished Fellow of the Society, the late Mr. Liston, is mentioned as the first person in this country who tested the value of anæsthesia in the capital operations of surgery. He hailed with enthusiasm the announcement from America, "that a new light had burst upon surgery, and that on mankind a large boon had been conferred."

The use of chloroform in midwifery has given rise to much discussion, and the author considers, that properly and fully to appreciate its value, its effects must be studied in their relation to the physiology of parturition. Great light, he says, has been thrown upon this latter subject by the researches of Drs. Robert Lee and Marshall Hall,—by the former, in regard to the nervous endowments of the uterus itself, and by the latter, as the expounder of the doctrine of reflex action. As in the sequence of effects from the inhalation of chloroform, the spinal and ganglionic systems, on which the parturient act essentially depends, are the last to come under its dominion, he considers we run no risk of seriously interfering with or arresting their action, if we use common care and ordinary prudence in its administration. In cases of excessive motor action, with a rigid and unyielding condition of the os uteri, passages, and outlet, the advantages arising from the induction of anæsthesia are great. In instrumental midwifery, and in cases of turning, when the patient is nervous, restless, or unmanageable, chloroform presents a valuable auxiliary. The fact, that immunity from pain may be secured without the suspension of intellectual consciousness, ought never to be forgotten in obstetric practice. In conclusion, the author says, that in ordinary and normal labour, as a general rule, he is strongly inclined to the opinion, that anæsthesia is uncalled for; but that there are other cases, preternatural and instrumental, in which its induction is a most desirable procedure, alike to the accoucheur and his patient.

Dr. SUTHERLAND said he should be sorry to allow a subject of such interest as chloroform to pass without a few observations, and should be very glad to inform the meeting in what cases he had seen it prove beneficial and otherwise. He observed that in epilepsy it had kept off the fits, and that in insanity it had quieted the maniacal excitement, although not acting curatively; but in acute dementia it was decidedly beneficial. In concluding, he referred to three cases of pregnancy, in which puerperal mania had resulted from its administration.

Mr. **Barlow** spoke of the great interest connected with this subject, both to the physiologist and the practical surgeon; but he (Mr. Barlow) considered that Mr. Dunn had not sufficiently referred to the dangers connected with the administration of chloroform; and said fatal cases had occurred in which its fatality could scarcely be referred to its incautious administration, and which untoward result would, he considered, have happened even in the hands of Dr. Snow himself. He (Mr. Barlow) had arrived at those conclusions from the very sudden manner in which the deaths had taken place, and the poisonous properties of the anæsthetic. He next observed, that, in fatty degeneration of the heart, which could not by possibility be diagnosed, its administration would certainly be injudicious; but could not speak as to its being sufficiently mixed with atmospheric air in any of those fatal cases. Mr. Barlow did not consider any case of fatty degeneration or organic disease of the heart would allow of its administration. In tetanus, he said, its action was variable, in some cases subduing the spasm for a short time. In concluding, he observed that its effects had proved fatal in a case related by the French Academy of Medical Science, and also in a case of Mr. Paget's; and he (Mr. Barlow) thinks that in employing it we must look carefully to its dangers as well as its benefits.

The **President** here requested Dr. Sutherland to favour the Society with the history of those cases of puerperal mania produced by chloroform of which he had spoken.

Dr. **Sutherland**, in answer, said the first case was that of a lady, to whom this agent was administered during an epileptic fit; and, during the absence of her attendant, she seized the bottle, and inhaled too much. The second case occurred in the wife of a medical man, who had himself administered the chloroform. He had obtained the history of the third from a country practitioner.

Dr. **Heale** observed, that, in connection with the subject, he had performed some experiments on donkeys, goats, &c.; and, by opening the carotid on one side, and the jugular vein on the other, and by means of conducting wires, connecting each vessel with a delicate galvanometer, he had discovered that an electric current took place during health in the circulation, always in one particular direction; that chloroform, administered to an animal subjected to this experiment, at first diminished this current, and, if carried to a fatal extent, a short time before this result took place, entirely stopped the galvanic current; and that with respect to arterial and venous blood, if removed from the body, and connected with a slight galvanic apparatus, the current passed in a different direction from that which it took in the body.

Dr. **Sibson** said that although, in death from chloroform, the action of the heart was paralysed from the circulation of the poisoned blood through its parietes, he felt convinced, that, if the chloroform be administered gradually, and plentifully diluted with air, in the manner laid down with such scientific precision by Dr. Snow, there was no danger of paralysis of the heart being induced, unless that organ was affected by fatty degeneration or serious organic disease. In the valuable paper just read, which was so clear in its statement of the effects of chloroform on the brain, its influence on the extremities of the nerves had not been considered. If chloroform or prussic acid be applied locally, local anæsthesia is induced by the effect of these agents on the extremities of the nerves; in like manner, if chloroform enter the circulation through the lungs, it is conveyed by the blood to every part of the system, and this produces, so to speak, everywhere a local action in the peripheries of the nerves, suspending not only sensation, but the excitability of reflex motion. In viewing the influence of chloroform on the nervous system as a whole, he considered we must not only regard its immediate effects on the brain and on the sentient and excitor properties of the extremities of the nerves, but those on the spinal marrow. Volkmann and Weber have shown that, if we excite the spinal marrow, continuous muscular rigidity is induced, as in tetanus and meningitis of the cord; while, if we stimulate the extremities of the nerves, reflex movements are excited, which are essentially temporary and intermittent. Dr. Sibson thought it evident that the muscular rigidity usually induced during the second degree of the action of chloroform is due to the excitation of the spinal cord by the circulation through it of the chloroform, as well as by the withdrawal of the control of the cerebral from over the spinal portion of the nervous system. Dr. Sibson, in conclusion, observed, that he had given to the subject mature consideration in his physiological address on the causes which excite respiration, recently published in the Provincial Medical Transactions.

Dr. **Snow** said Mr. Barlow appeared to consider chloroform, although very beneficial, also very dangerous; but he (Dr. Snc thought that half the boon derived fro anæsthetic consisted in its freeing th from the apprehension of pain. With to fatal cases, he said one had happened at Mr. Robinson's, the dentist's, in which the patient did not virtually inhale half a drachm of chloroform, but had died from syncope, produced by fright, accompanied with cardiac disease; and in other cases death had arisen from its inexperienced administration. Dr. Snow said that, with a little experience, a patient may be brought under its influence in three or four minutes, with from thirty minims to a drachm of chloroform. In most fatal cases there was evidence of want of skill, as in a case in Mile End. The first half-drachm administered produced no effect, the second proved fatal; but Dr. Snow considered, if in this case there was extraordinary susceptibility, the first half-drachm should have produced anæsthetic effects.

Dr. **Copland** said he had listened with great attention to both papers on chloroform. He quite concurred in the belief that it was highly dangerous in unskilful hands, and when used injudiciously, as where the operator did not sufficiently inquire into the state of the patient; and Dr. Copland thought that, in neuralgia connected with organic cerebral lesion, we should stop, and not use this agent. He next observed that reference was made to its action, both on the peripheral and nervous centres; but that no effect of its action on the lungs had been mentioned. The first paper slightly referred to this subject. In some cases Dr. Copland thought it might prove beneficial, but in others certainly injurious. He had seen cases in which death took place soon after its use, and where there were indications of congestive pneumonia. Chloroform, in its action on the peripheral nerves, must be considered to impair the functions of the capillaries, and so, by producing congestion, gives rise to a most troublesome form of pneumonia: it should be used, if at all, with great caution where there was a congestive tendency; as, for instance, in the early stage of phthisis. He considered it a dangerous remedy, and only to be used by careful hands.

The **President** said that, in order to allow the authors of the papers an opportunity of reply, he would not close the meeting (it then being ten o'clock) for some time longer.

Mr. **Dunn** said he had no wish to detain the meeting, but his object in bringing the paper before the Society was to allow this subject to be brought in such a light before the Society that its authoritative advice on such an important subject would be made known to the profession at large.

The **President** announced that the next meeting of the Society would not take place until May 8, and that the following papers then would be read:—

On Fatty Degenerations of the Placenta, by Robert Barnes; and

On the Physiological Effects of Atmospheric Electricity, by Dr. Faraday.

EPIDEMIOLOGICAL SOCIETY.

May 5, 1851.

Dr. Babington, the President, in the Chair.

The ordinary Meeting of this Society was held this day at the house of the Royal Medical and Chirurgical Society, 53, Berners Street.

The discussion on yellow fever, which had occupied the former meeting to the exclusion of Mr. Cooke's paper, terminated with Dr. M'William's able reply to his opponents, at a quarter to ten.

The **President** stated, that on future occasions only two evenings could be allowed for discussion on one subject.

Dr. **Snow** commenced, at a quarter past ten, to read his paper "On the Mode of Propagation of Cholera." Soon after ten, it was moved and seconded that further time should be given for the reading of the paper on the same night, ten o'clock being the hour of adjournment. An amendment was put and carried, "That the further reading of Dr. Snow's paper be deferred to the next meeting, on the second of June." Many gentlemen were present who were anxious to hear this paper read.

On that night Mr. R. H. Cooke* will also read his paper, "On the Epidemic Mental Diseases of Children," founded chiefly on Hecker's "Children's Pilgrimages" and "Sympathy."

⁂ In our next number we shall publish the admirable reply of Dr. M'William on the subject of the Importation of Yellow Fever into Brazil.

ACADEMY OF MEDICINE, PARIS.

April 22, 1851.

Exploration of the Retina by Phosphenes.

M. **Larrey** read the fourth and concluding part of the work, by M. Serre, on the above subject. In this portion of his essay the author treated of phosphene in its relations to amblyopia. The following are among the principal propositions :—

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* Not Clarke as before printed.

The words amblyopia, arthenocopia, ophthalmocopia, kopiopia, convey the fact of a degree of anæsthesia of the retina, which is common also to every form of alteration of the sight. The observation of phosphene is the only sure method of detecting the existence and degree of amblyopia, and serves, moreover, to discover the approach of the affection, while the sight is yet sound. Its diagnostic value is greater with reference to the extent than to the cause of the affection. Different degrees of anæsthesia of the retina are distinguished by variations in the size, form, colour, and intensity of the phosphenes, and more especially by the reduction of their number. The disappearance of one or more phosphenes in amblyopia possesses an importance in direct relation to their semeiological value. The order of importance of the phosphenes is as follows: jugal, frontal, temporal, nasal.

Compression of the Aorta in Post-partum Hæmorrhage.

M. **Chailly** read an essay, in which he stated that in eighteen cases in which compression of the aorta had been employed the hæmorrhage had been instantly arrested in seventeen.

The Premonitory Symptoms of Insanity.

M. **Moreau** (of Tours) read an essay, in which he observed that there exists, in relation to insanity, an order of symptoms which observers, through preconceived ideas, have suffered to be unheeded. These symptoms belong to a dynamic lesion of the nervous system, and may be thus enumerated:—1. Certain modifications of sensibility, which have been termed congestive neuroses. 2. Those nervous affections known as *auræ*. 3. Certain convulsive attacks, which the patients themselves are wont to compare to electric shocks. 4. A state of nervous excitement similar to what is often met with at the end of inflammatory fevers. 5. Certain nervous disorders, commonly designated vertigo, deafness, faintings, &c. These nervous affections the author regarded as of the greatest importance in relation to mental affections, of which he looked upon them as the *punctum saliens*, and the omission of which he considered to form a *lacuna* in the history of insanity. By the intervention of these new facts, the author states, light is brought into darkness. From the facts observed by the author, he arrives at the conclusion that insanity is not a moral malady, but as entirely a disorder of the nervous system as any other affection recognized as such, and that the treatment is to be medical.

Sensibility of the Auditory Nerves.

M. **Bonnafond** transmitted an essay on the transmission of sonorous vibrations through the bones of the skull regarded as a means of appreciating the sensibility of the optic nerves. The author stated the following results of his researches:—1. That articulate sounds cannot be perceived except as they penetrate to the internal ear by the external passages. 2. That in congenital occlusion the deafness will be complete. 3. That sonorous vibrations can be transmitted from without by the bony structures of the skull, but that articulate sounds are never communicated by that channel. 4. That when a vibrating body is applied to the cranial arch, the sounds are not always transmitted along the curve of the bone, but that they frequently pass directly through the bone and cerebral substance to the auditory nerve. 5. The cerebral hemispheres transmit sounds only to the nerve of the same side, and never to that of the opposite. 6. The diapason, or movements of a watch, applied on different parts of the head, afford the best means of diagnosing the degree of sensibility retained by the auditory nerves in cases of deafness. 7. The loss of the membrana tympani, of the hammer, and of the anvil, do not involve complete deafness, but its impairment only, provided the stapes remain, and the nerve retain its integrity. 8. The loss of the stapes involves complete loss of hearing, whatever may be the state of the sensibility of the auditory nerve.

ACADEMY OF SCIENCES, PARIS.

April 21, 1851.

On the Poison of the Cutaneous Pustules of the Salamander and Common Toad.

The milky fluid which is obtained from these pustules is of milky whiteness and fluidity, and has a strong odour. The experiments of MM. Gratiolet and Cloez show that this fluid is an energetic poison when inserted beneath the integuments of birds, death following at the end of two or three minutes. Salamanders were also killed by it, but in these animals death was preceded by convulsions. The effect of the poison on the smaller mammalia—*e. g.*, mice, &c.—was to produce great distress, and, in some instances, convulsions: these phenomena, however, quickly disappeared.

Hygiène.

M. **Landry** transmitted an essay on the application of the laws of hygiène to the construction of towns, and accompanied his essay with a plan of a model town.

Medical Trials and Inquests.

KERRY ASSIZES.

Tralee, Saturday, March 15, 1851.

Before Judge Ball.

ATTEMPTED MURDER BY ARSENIC—EVIDENCE FROM THE ACTION OF THE POISON ON ANIMALS.

Denis Healy, 38, was charged with feloniously, wilfully, and of malice aforethought, administering arsenic to Catherine Healy, his wife, with intent to murder her.

The crown counsel, Messrs. Plunket, Hickson, J. D. Fitzgerald, and Henn, prosecuted, and Mr. Brereton defended the prisoner.

Catherine Healy, a woman, aged 20, examined.—Was married to the prisoner about Christmas twelvemonth; before they were married a fortnight, prisoner began to treat her badly; he used to beat her very often: on Saturday in summer (13th July), witness made stirabout for dinner; put down Indian meal, having previously rinsed the pot; put down clean water from the well; put the pot on the fire; the prisoner stirred it; when it was done, witness poured out some on a dish for the prisoner, and some on a plate for prisoner's step-brother, John Lynch; prisoner sent her out to cut soil for the cows, and she left her own portion of stirabout in the pot; cut the soil, and then milked the cows; came in, and prisoner told her to eat her stirabout; it was still in the pot; it was cold; ate it from the pot; prisoner and his brother ate what was poured on the plate and dish; witness ate a hearty meal from the pot; gave some to the dog—three spoonfuls; Denis Shea and Biddy Shea were in the house; did not find any taste in the stirabout; noticed that the skin or scum of it was broken, as if stirred after it cooled; noticed also two lumps in it, like flour, but suspecting nothing, she ate them; became immediately sick, and vomited; after this witness felt as if boiling in her throat; the vomiting occurred at night, but ceased in the morning; felt a tightness in the throat, extending downwards towards the stomach—burning and soreness, with pressure in the stomach; had a great hoarseness, and in a week's time the skin peeled off the soles of her feet; for three or four days had a difficulty in standing; used to trip in walking, and was unable to sleep; was not well for a fortnight; was in perfect health before eating the stirabout; the dog had also been quite well, but saw him vomit two or three times after he ate the stirabout; he fell frequently on his side; he ran to the place the fowls were in, and vomited there; did not see the dog again till he was found dead in a dyke in the course of ten days; the hens were about the house during the day, one of them died the next day; saw the others scarcely able to stand, and refusing food; this hen died in a couple of days, and its feathers were found to be loose; a red cock also, which was kept in the house, died in six or seven days; it dropped most of its feathers before it died; prisoner was not in the house when witness took sick; when he came in she was very bad, and lying in bed; he told her, however, to go out and spread out the dung; she said she was sick, and he said she was not; the priest came to her on the third day; the priest said to the prisoner he would have him arrested; prisoner then made away with himself, and did not return until witness recovered.

Bridget Shea examined.—Is an aunt of Catherine Healy; was in the house; while her niece was out cutting the soil, witness saw the prisoner standing close to the pot where his wife's stirabout was cooling. (This witness deposed to the other facts in the same manner as the last witness, detailing the sickness of the girl and of the dog and hens.)

Cross-examined.—Did not see the prisoner touch the pot; could not see him clearly on account of a dresser which was partly between them.

Daniel Shea (a boy) examined.—Was in the house; heard the prisoner send his wife out to cut the soil; went out at the same time, but returned immediately, and found the prisoner at the pot; he had it on the dresser, and his hands were in the pot (here witness, by means of a hat, described the manner in which he saw the prisoner's hands in the pot); when witness came in, prisoner withdrew his hands from the pot, and putting one hand in his breeches pocket, walked to the door and looked out; he then walked back again to the pot, and put his hands in it again: no person was in the house besides Bridget Shea, the prisoner, and witness; Bridget Shea could not see what he was doing on account of the dresser. (This witness deposed to the subsequent circumstances of the woman, the dog, and the hen being sick, and mentioned his having seen prisoner beat his wife.)

The Rev. Garrett Roche examined.—Th prisoner came to me on the day of the occurrence, and told me his wife was sick, an had taken a disgust to her gruel; wanted me to go to prepare her; he d not appear much concerned; I went alo with him, but when near his house I missed him; I had another sick call to make that day, so I did not go to the prisoner's house; he came to me again late at night, but I could not go then, as it was Saturday night, and it would have interfered with my duties; on the Monday, in consequence of removing, I went to the house; I found the woman flushed; her eyes very red; I asked the prisoner where he got the poison, he appeared stunned, and did not answer for a time; then he said, I gave her no poison; I then said to the woman's uncle that he should send for the police, and detain every person who had been present at the making of the stirabout; I then put all the people out of the room, that I might hear the woman's confession; when I came out the prisoner was gone; I did not see him again until the woman was out of danger.

Dr. Mayberry deposed as to the symptoms observed by him on visiting the prosecutrix on the fourth day; they were such as arsenic is capable of producing; he received from constable Tracey a dog, a cock, and also, previously extracted, the contents of the dog's stomach, and put it in a bottle sealed up; took out also the contents of the crop and gizzard of the hen, and sealed it up in a bottle; also extracted the stomach itself of the dog, and part of the crop and gizzard of the cock; bottled them, and sealed them; gave the bottles to constable Tracey.

Constable Thomas Tracey examined.—Proved that he conveyed the dead dog, the cock, and the hen to Dr. Mayberry, and subsequently brought from him certain bottles, which he delivered to Dr. Geoghegan.

Dr. Geoghegan, Fellow and Professor of the Royal College of Surgeons, examined.—Received, on the 3d of September, three bottles from Constable Tracey; the bottles were sealed, and labelled respectively—1, "Contents of the crop and gizzard of a fowl that ate the matters vomited by Catherine Healy;" 2, "Contents of the stomach of a dog that swallowed some of the gruel;" 3, "Stomach of the dog, and part of the gizzard and crop of a cock." No. 1 contained about half an ounce of acid vegetable matter, with a little gravel and clay; the presence of *starch* was indicated in considerable quantity, and also that of arsenious acid or white arsenic, amounting to between two and three grains; the presence of starch showed that the fowl had fed on some farinaceous matter; the quantity of white arsenic was sufficient to destroy life in the fowl, or even that of the human subject; two and a half grains have destroyed the life of an adult; the statement that arsenic enters into the composition of any part of the human body is altogether erroneous; Orfila maintained that doctrine, but he has since failed to establish it, and has admitted his error; the subject has been rigorously investigated by Flandin and Danger, and it is now conceded that arsenic is not a constituent of the bones, or any other structure; there was a small quantity of clay in the crop and gizzard, but I do not in anywise attribute the presence of arsenic to the clay, though it is asserted that clay contains traces of that substance; the contents of the dog's stomach furnished no trace of arsenic, nor did the stomach itself, nor that of the gizzard and crop of the cock; I have attended all through this trial, and have heard all the symptoms detailed by the witnesses; the symptoms exhibited by the woman afford in themselves a strong presumption of poisoning, and, when viewed in connection with their antecedent and concomitant circumstances, fully establish the fact; I have heard of the lumps in the stirabout; arsenic in powder would be likely to form such lumps in gruel, as it does not with facility dissolve even in water; white arsenic resembles flour in colour; in most instances in which arsenic has been swallowed, it has produced no impression on the nerves of taste, but, in some cases, an acrid feeling has been experenced; if taken in gruel it would not be likely to indicate itself by taste; the first effect of a poisonous dose of arsenic taken by a person in health is usually nauseous, followed by vomiting, and subsequently by a burning in the stomach, which is occasionally very intense; it often produces soreness or pressure of the stomach; one of the most constant effects of arsenical poison is the burning sensation of the throat, usually accompanied by hoarseness, and sometimes by a sense of constriction; the falling off of the skin or nails is also very common when the case is prolonged; paralytic symptons, such as those detailed in evidence, often result from the action of arsenic, but may also be produced by other poisons, such as lead; from the symptoms exhibited by the dog and the fowl, namely, the vomiting, staggering, falling off of the feathers, &c., a presumption of poisoning in these animals is established; the fact that no arsenic was present in the stomach of the dog, or the crop and gizzard of the cock, is quite consistent with their having been poisoned, because if, as it appears, they survived for some considerable time, the poison may have been eliminated. The doctor proceeded to detail the conclusions at which he had arrived from the consideration of the medical facts—namely, that Catherine Healy had swallowed an irritant poison, and that such poison was white arsenic.

Cross-examined.—Sickness of stomach is very usual with females in the early stages of pregnancy (prosecutrix was pregnant at the time of the occurrence); I do not think that acrid bilious matters swallowed by the dog would account for his sickness, nor could it account for the dropping off of the feathers of the fowl, nor for the presence of arsenic in the digestive organs of the latter; vegetable poisons produce effects on man differing in some instances from those observed in the lower animals; but mineral poisons are more uniform in their effects.

A Juror.—Do you think that a person who had taken so large a dose of arsenic as the prosecutrix could have lived?

Witness.—I don't know whether the quantity taken was large; but if it were, it is not surprising that recovery should ensue, both from the early occurrence of free vomiting, and from the fact, that the viscid material with which the poison was admixed would, by enveloping the poison, both promote its more ready expulsion through vomiting, and by partially protecting the lining membrane of the stomach from its contact, would retard its absorption into the system.

Mr. Brereton, in a long and very powerful speech, contended that no sufficient evidence of an adequate motive was adduced against the prisoner; that no proof was given of his having procured or purchased any poison whatever; that such proof could readily have been given if, in fact, he had procured it at the only approachable place where it could be had—namely, in the town of Kenmare; that the sole fact in the case substantially criminating the prisoner, was the fact sworn to by Denis Shea; that Shea himself was not beyond suspicion in the case; and that the woman's sister, Norry, was shown to have a direct interest in her death. Counsel then proceeded to contend, that the case was by no means conclusive as to the fact of arsenic or any poison having been taken at all, or administered by any one. True, they had the opinion of a most distinguished physician on the point; but it was, after all, *no more than an opinion*. All these views were pressed with particular force upon the jury.

Judge Ball summed up the evidence, leaving it to the jury to determine, first, whether poison had been taken; secondly, whether (if so) it had been the act of the prisoner; and, thirdly, the question of intent.

The jury, without hesitation, returned a verdict of guilty.

Hospital and Infirmary Reports.

KING'S COLLEGE HOSPITAL.

Varicocele—Operation by Needles and Suture—Disease of the Lower Jaw—Extirpation of the Bone.—Strangulated Femoral Hernia.

VARICOCELE is a complaint of very frequent existence, and yet the majority of persons who have it suffer so little pain and inconvenience that they are not willing to give up any time, or to run any hazard, for the sake of getting a radical cure accomplished. In the most usual forms of this disease, where there is not a large accumulation of dilated veins, and consequently only an occasional uneasiness, and where the occupation of the patient is not of a laborious nature, a simple suspensory bandage, or other contrivance for giving the part support or compressing the swollen veins of the cord to some extent, will suffice to prevent him from suffering any particular amount of annoyance or inconvenience. But in this form of disease, as in some other complaints, although the greater number of cases are simple, and produce no mischief, instances will every now and then be met with where the tumor resulting from the varicose condition of the veins is so large, and when so much inconvenience, and even misery, is produced, that it becomes absolutely necessary to devise some plan for bringing about a permanent cure. This especially holds good when the person who is afflicted with a bad varicocele is employed in some occupation which requires great physical labour, or which necessitates him to keep the standing position for a length of time together. In the latter case especially, it is very obvious that a varicocele is liable to be much aggravated,—much in the same way, in fact, as a varicose condition of the lower limb is rendered worse and less amenable to remedies by the individual keeping constantly in a standing position, and comparatively rarely resting.

There have been several measures, of greater or less severity, put in force for the cure of this disease when it has come to such a height that it is absolutely necessary to do something for the permanent relief of the patient. The older surgeons, indeed, have gone so far that they had actually in some instances performed the operation of castration; but surely this is a remedy which can hardly be justifiable under any circumstances,—most decidedly, unless some other and less severe procedure should have been previously adopted. The method recommended and put in force by Sir Astley Cooper is one of a harmless nature, at least not likely to cause any mischief; but, at the same time, its success is somewhat problematical. This consisted in taking up a portion of the relaxed skin of the scrotum between the fingers, and cutting it off. The necessary contraction which subsequently took place, from the loss of substance and from the cicatrization of the wound, was considered to be sufficient to bring about a cure; but its beneficial effects are most probably confined to its supporting the veins and compressing them more tightly; for it must be presumed that the veins themselves are not meddled with, and cannot be changed in their structure. One of the last cases we met with was one in which this operation had been done some time previous, but no beneficial result, at least as far as the cure of the disease, was manifest; and the patient applied for the purpose of undergoing some other treatment.

The method of cutting down upon and tying the spermatic vein, as practised by some French surgeons, has been successful; but, at the same time, it must be looked upon as one of imminent hazard, and, we believe, has been attended with fatal results. The most simple and least hazardous of these operations, for the purpose of obliterating the vein, consists in isolating the varicose vessels from the other components of the cord, running harelip pins underneath them, and then applying the twisted suture, including the integument. The needles are allowed to remain in for a sufficient time to allow of obliteration taking place, or even they are permitted to ulcerate nearly or completely away. This practice has of late been put into force in two or three instances in this Hospital with considerable success, and we shall mention the following brief particulars of the last case under notice:—

W. J., ætat. 28, single, native of Scotland, admitted March 13, with varicocele of the left side. He says he has been troubled with an aching pain in the scrotum as long as he can remember. For the last eight or nine years, the veins of the left side of the scrotum have been much enlarged and turbid, particularly after a long day's work. He then had dragging pains in the cord, aching in his back and loins; for the last two years he has been compelled to wear a suspensory bandage. At present the skin on the left side of the scrotum is very loose, the veins are long and full, the left testis is much smaller than the right. He has a great deal of suffering from the varicocele, especially when standing, but, when he lies down, the pain and the swelling both disappear: he has varicose veins of the right leg: he has come into the hospital for the purpose of having the disease thoroughly cured, as he suffers from it so much.

15th.—Mr. Fergusson to-day performed the following operation upon him:—Having first carefully isolated the veins from the other components of the cord, so as not to include the vas deferens, he passed three harelip needles underneath them, from one side to the other; he then twisted strong thread around them, including the skin, not very tightly, and sent the patient to bed.

17th.—The inflammation excited by the needles is rather severe, but the patient only complains of heat in the part.

22nd.—The needles are ulcerating out; patient does not complain of pain; no tenderness up the cord.

April 1.—Mr. Fergusson removed the needles, which were nearly ulcerated out. By the end of another week, the sores left by the needles were rapidly healing, and he was ordered to be discharged.

On the 15th, this patient presented himself at the Hospital as an out-patient, the varicocele being cured, and complete relief being obtained by the operation performed upon him.

It is important to bear in mind that this operation, simple as it really is, and beneficial as it really is in its results, should not be rashly undertaken, as it is a notorious fact that the surgeon can never beforehand promise his patient a complete immunity from danger when he ties any important veins; therefore it is, perhaps, only a justifiable proceeding when the varicocele is of great size, and so troublesome to the patient that he is willing to run some little hazard for a prospect of cure. It must also be borne in mind that the vas deferens is in close proximity to the bundle of enlarged veins, and that it might, with facility, be included in the ligature; with sufficient care, however, its situation may be felt, and a very disagreeable accident, both to the patient and the surgeon, may be avoided.

Disease of the Lower Jaw.

Leigh S., ætat. 48, single, a teacher of vocal music, admitted into the hospital March 20, with a large tumor of the right inferior maxilla. Thirteen years since he had an attack of erysipelas in the head, his right cheek swelled very much, and continued swollen for some time. Ten years ago, he was very much troubled with tooth-ache and pain, extending to the right side of his head; the two lower molars became carious; these he had extracted, and then the pain ceased. Two years after this, a tumor arose over the alveolar process of the two lower molars. He cut into this himself with his penknife, and let out some glairy fluid; it healed up, and filled again; and he was in the habit of opening it with his penknife from time to time for six months, when it healed up, and appeared to be well. About six years ago, after having been seized with premonitory head symptoms, he was suddenly attacked with paralysis of the right side of the face, whilst sitting at his breakfast. He could not speak, and his mouth was drawn to the left side: he took some purgative medicine, and the attack went off. About this period, the ramus of the right inferior maxilla began to expand outwardly about its centre, and it grew very slowly, and gave him no pain; it was hard and smooth, but, on pressure, a slight crackling could be heard: within the last twelve months, its growth has been much more rapid. In December last, Mr. Fergusson made an opening into it from the mouth, and a quantity of glairy fluid escaped from it. This discharge continued until two months ago, when another surgeon applied some potassa fusa and lint tents. In consequence of this, he suffered great pain, and the discharge entirely changed in character, becoming very fœtid, and in greater quantity, mixed with sloughs.

On admission, the tumor is as large as an orange, extending as far as the angle of the jaw at one extremity, and to the symphysis at the other, where the bone seems to expand gradually into the tumor; it is round, hard, and smooth. There is an opening connected with the mouth, and when a probe is passed into this, it goes clearly into a large cavity within the tumor; from this cavity a considerable quantity of fœtid matter distils, and it comes out in increased quantity when the patient hangs his head on one side. He is in pretty good health, but he has lost flesh of late; and this circumstance, together with the increase in size of the tumor, has decided him to undergo an operation. Mr. Fergusson has come to the conclusion that it is a non-malignant bony tumor, and that it is a very favourable case for extirpation of the lower jaw.

On the 22nd, chloroform was inhaled by the patient, who was laid on a table, with his head well raised. Mr. Fergusson first extracted the right incisor and canine teeth; then, standing somewhat in front and to the right of the patient, he commenced his incision a little to the side of the symphysis, cutting through the lower lip, entering the knife a little below the margin; he then carried his incision in a slightly curved direction along the base of the jaw to about the centre of the tumor; he then cut through the symphysis with a common saw; the knife was now applied again, so as to loosen the soft parts still in connection with that part of the bone; the flap of skin was still further dissected up; the muscular attachments of the bone were divided by rapid movements of the knife along and behind the base of the jaw; finally, the articulation, with the temporal bone, was cut into from behind, and the whole mass entirely separated. The facial artery was not divided until the latter part of the operation, and was secured with two ligatures, above and below; the facial vein was also ligatured; the inferior dental artery, and some other branches, also required a ligature. Hæmorrhage was by no means great; wound was closed with stitches, one in the centre being left unfastened, to be closed at night.

The tumor, when sawn through and examined, presented a beautiful example of what some term the spina ventosa. The mass was bony, and inside it was a large cavity, which was lined by a distinct cyst; it contained some very offensive and discoloured purulent matter; the walls of the cavity were of considerable thickness. It is difficult to say whether it was a simple chronic abscess of bone originally, or whether it was an instance of enchondroma, in which suppuration and subsequent destruction of the soft cartilaginous interior had taken place, leaving the shell of the bone. One thing is very evident and very satisfactory, that the disease was not of a malignant nature, and that it is not likely to return again.

In the evening, the wound was closed farther, and adhesive straps were applied. He complained of headache, and coughed up some clots of blood now and then; no bleeding from the wound.—Ordered to have ʒss. of Tinct. Hyoscyami.

24th.—Going on favourably; suffers considerably, however, from pains in the head, and his cough is severe, and there is some difficulty in swallowing.

25th.—Mr. Fergusson removed some of the stitches, and ordered the wound, which is looking well, to be dressed with water dressing.

26th.—Wound almost entirely healed by the first intention externally. In consequence of the loss of the pterygoid muscles of this side, the other side of the jaw is drawn somewhat towards the right, so that the upper and lower teeth do not correspond; but this is to be remedied by an apparatus which is made especially for keeping the parts together.

April 7th.—Is up and dressed; wound healed most healthily, except a small portion in the centre; there is very little distortion, and he wears the silver instrument for keeping the teeth together.

Amongst the many improvements which have of late years taken place in operative surgery, those proceedings connected with the removal of part or of the whole of either maxilla must be looked upon as the most striking and most beneficial. It was not many years ago that persons who suffered from incurable disease of the jaws were allowed to linger on from year to year, either carrying the disease with them to the grave, or else falling victims to its effects; but, within less than half a century, many bold surgeons have signalised themselves by their successful efforts in removing extensive and otherwise incurable growth from the region of either upper or lower jaw. More especially are the surgical profession indebted to Dupuytren, Mott, Cusack, Liston, Lizars, and Syme. These eminent men, and others of our day, have now so often performed these operations, that excision of the lower jaw must be looked upon as a proceeding which should be put in force without reluctance, and with every good hope of success, should an occasion peremptorily call for it. The difficulties connected with this operation, in comparison with those attendant upon the excision of the whole of the superior maxilla, are slight, and the results, in well-chosen cases, are likely to be much more satisfactory, inasmuch as it is possible in almost every instance to ascertain with precision and to take away the whole of the morbid parts; but in certain instances of disease of the upper jaw, it is difficult to tell to what extent this bone and other parts may have been affected, and, in more than one instance, this operation has been effected, and portions of disease have been left behind.

The usual proceeding of disarticulating the lower jaw is not by any means one of a difficult nature. The manner in which it is ordinarily done differs somewhat from that put in force by Mr. Fergusson in this instance. Surgeons generally make their first incision quite through the whole substance of the lower lip, in order to expose the symphysis well to the saw; but it will be noticed that, in the case just narrated, Mr. Fergusson, instead of commencing his cut at the margin of the lower lip, left that untouched, and entered his knife some little distance below it. He was by this means well able to apply the saw to the bone, and the integrity of the free margin of the lip not being interfered with, much less deformity has been left. Another feature in this particular proceeding is worthy of notice. As the operation is usually done, the facial artery is cut across soon after the knife is first applied to the soft parts in its sweep along the base of the jaw; but Mr. Fergusson made his first incision only to that extent that he did not wound the artery until after he had divided the bone and had recommenced the dissection for the purpose of disarticulation: by this means a great deal of bleeding is saved. Mr. Fergusson took especial care to place a ligature upon both ends of the divided facial artery: his reason for doing so was, that on one occasion, after removing the lower jaw, very troublesome hæmorrhage occurred, which rendered the reopening of the wound necessary, when it was discovered that the bleeding proceeded from the further end of the vessel which had not been included in a ligature. Mr. Fergusson particularly called the attention of the pupils to this point, as he had reason to believe that, if they followed this example, they might be saved a great deal of trouble.

It will be observed that chloroform was administered in this case, and it well illustrates the benefit and safety of this agent in operations about the mouth and jaws. By some surgeons it is considered that it is not safe to administer chloroform in the operation of removing either the upper or lower jaw. The objection is, that blood may fall back into the windpipe, and cause suffocation; and in one somewhat celebrated case, in which death ensued after this operation, it was averred that the fatal issue was owing, not to the operation, but to the chloroform. In the case just narrated, the chloroform was inhaled without any unpleasant effects, and, in fact, there were none of those phenomena which are stated to take place when such operations are performed upon persons whilst under its influence. We have now witnessed many operations upon the mouth and jaws, but we cannot call to mind a single instance in which any evil result has happened after such operations had been done under the influence of chloroform. It is well that groundless prejudices on so very important a matter should be dissipated by the result of experience; for it is not right or humane that patients should suffer the agonies of these terrible operations, now that it is clearly ascertained that chloroform may be employed with as much safety here as in operations upon any other part of the body.

Hernia.

In accordance with our promise to relate the particulars of every case of hernia which has been operated upon in this hospital, we shall give the account of a case of considerable interest, and which bears much upon the question of operating with or without opening the sac.

S. W., aged thirty-three, a married woman, was brought into the hospital at mid-day on the 16th of April, with a strangulated femoral hernia on the left side. Two years ago, she was under treatment in the hospital for dropsy, and about this period the hernia first appeared. She had a truss, but she did not wear it long, as it gave considerable pain; consequently, she left it off. About six weeks ago, the protrusion increased in size, and she was seized with vomiting and pain in the abdomen, which symptoms, however, were relieved by injection, and the tumor was reduced in size. On the 13th, three days before entering the hospital, whilst scrubbing on the floor, the hernia became strangulated; she felt pain in the part, and began to vomit almost immediately. Several attempts were made by different surgeons to reduce the hernia: injections were resorted to, and ice was applied to the tumor without effect. When she was brought into the house, she had all the worst symptoms attendant upon strangulated hernia—vomiting, hiccough, and pain in the belly; a brown tongue, a quick and feeble pulse, and a flushed countenance; the tumor was larger than an orange, elastic, red, and inflamed; there was decided fluctuation in the tumor: the bowels had been open the day previously. Mr. Partridge at once proposed to operate, but the patient would not consent to have it done. In the meantime, injections and ice were employed for the purpose of returning the tumor, but uselessly. At half-past five o'clock she consented, and Mr. Partridge proceeded to operate. He made a crucial incision, exposed the whole of the tumor: the several superjacent tissues were found to be thickened and matted together. The sac itself was very thick; this was opened, and immediately a quantity of serum escaped: at the bottom of the sac was a clot of blood and a portion of intestine about the size of a walnut, and of a dark colour. Mr. Partridge divided Gimbernat's ligament very freely, and returned the intestine; immediately it was returned, about a pint of serous fluid gushed from the abdomen. The wound was dressed, and a broad bandage was applied.

17th.—She has been still vomiting, and has had but little sleep: she got very low, and died at two o'clock.

Post-mortem examination.—On opening the abdomen, a great quantity of fluid gushed out; this was afterwards found to contain fæculent matter. The seat of constriction was in the ileum, about three feet from its termination: a small portion of the gut was very black; and near the constriction was an ulcerated opening, by which some of the contents of the intestine had escaped into the abdominal cavity. The sac was much thickened from layers of fibrine: some blood was effused into the abdominal cavity: there were some bands of adhesion between the transverse colon, stomach, and walls of abdomen.

Here we have the same story so frequently given of strangulation occurring, of repeated and forcible attempts made to return the hernia, of delay of several days before operation, and, lastly, the uselessness of an operation after such delay. Had this unfortunate woman been brought into the hospital two days before, she might have had a good chance of being saved. As it was, the proceeding could be of no avail, inasmuch as too much injury had been already done. Here, too, is shown an instance in which the operation should not be done without the hernial sac being opened. Mr. Partridge wisely laid the sac open at once, as so long a period had elapsed since strangulation, and the symptoms were of such a severe nature, that it was probable that the intestine would be found in such a condition that it might not be advisable to return it into the cavity of the abdomen. At the time of the operation, although the portion of gut was very dark-coloured, it was not supposed to have lost its vitality, and the perforation was not noticed, or had not yet taken place. The case is so far instructive that it shows what we have before stated to be an important point with reference to the question; namely, that in all cases where strangulation has existed for a long time, and where the symptoms are of such a nature that serious injury has already taken place in the part, it is the most proper plan to open the hernial sac.

Selections from Journals.

TRIAL OF A REGULAR PHYSICIAN FOR COUNSELLING WITH HOMŒOPATHS.

In the Syracuse Standard there is a report of the trial of Dr. Hoyt, of that city, as it took place before the Onondaga Medical Society, on the 29th ult. Several charges were brought against Dr. H., the one of most general interest being that of consulting, in a surgical case, with two homœopathic physicians. That our readers may understand something of the nature of the case, we give a portion of Dr. Hoyt's defence, in which he expresses his views in an open, straight-forward manner. The charges against him were not sustained.

"Dr. Hoyt said, as to his connection with Homœopathists—Drs. Loomis and Richardson—he would merely say, that he was called near Bridgeport to amputate a leg; that when all was ready, with the knife in his hand, those gentlemen came in, and he had no time to kick them out of doors, even if he had had the disposition. He would say then, that he had always chosen his help in surgery, and that he always should. He had not consulted with Drs. Loomis and Richardson, or any other homœopathists, in the practice of Medicine. He could not do so. He did not agree with them in Therapeutics. It was therefore impossible to counsel with them. He always told them so to their face, and the reason why. But in all matters relating to surgery, anatomy, and pathology, he of course agreed with them in the main, and he would in those departments of medicine as readily avail himself of the assistance of a homœopathist as of a person of any other school. In this he desired to be distinctly understood. In all respects in which he agreed with homœopathists, he should counsel with them, and accord them respect, as freely as to those of what might by way of distinction be termed his own school; and in points where his principles differed from them, he should not, because he could not, counsel or consult with them. This was his position, plainly and explicitly stated, and it was one which would never be disturbed by any vote or views of that Society, and would never be changed except by the conclusions of his own mind.—*Boston Medical Journal.*

ON THE USE OF COLLODION IN AFFECTIONS OF THE SKIN. BY DR. SPENGLER.

AMONG the external means which have been found most successful in the treatment of skin diseases, are those applications which exclude the action of the air. Of these, the most efficient is Collodion, the use of which, for this purpose, was first pointed out by Erasmus Wilson. This agent has been tried extensively by the author, who gives the following results :—

1. *Impetigo capitis.*—Collodion had been employed in three cases. Thick crusts, which had existed for several weeks, were spontaneously detached in three or four days, exposing a red skin. This was covered with a new layer. Immediately that new spots appeared they were covered with collodion, after the second application. The crust that was formed was extremely thin, and a third application usually effected a cure, even in *porrigo decalvans.*

2. In two cases of *impetigo larvalis, crusta lactea,* cures were obtained at the end of about four weeks by covering every pustule, as it appeared, with collodion.

3. *Lichen Agrius.*—In two cases a single application to each sufficed to effect a cure.

4. *Herpes Labialis.*—In a case of this eruption the collodion was applied on the second day, and every trace of the disease had disappeared on the fifth day.

5. In a long-standing case of chronic eczema the application of collodion every eight days for a month effected a great improvement; but the patient discontinued the use of the remedy.

6. Dr. Spengler has found collodion equally serviceable in fissures of the nipples, having observed a complete alleviation of pain and speedy union of the fissured surfaces. The author also reports equally successful results in a case of obstinate varicose ulcer; also in a case of cancerous ulceration of the face.—*L'Union Médicale.*

⁂ We have found that in acute eczema the free application of collodion, by protecting the surface from the action of the air, gives instantaneous relief from the severe sense of tingling and burning which attends that disease. X

MEETING OF THE GRADUATES OF THE UNIVERSITY OF LONDON.

A MEETING of the Graduates of this University was held on the 6th inst. at Freemason's Tavern, Great Queen Street, over which Dr. Gull, of Guy's Hospital, presided. The chairman having opened the business of the day, Mr. T. S. Osler, LL.B., Honorary Secretary, read the report of the Committee, which showed, among other things, that the powers in the supplemental charter, enabling the University to grant certificates in isolated branches of knowledge, irrespective of any proof that the candidates had gone through a regular and liberal course of education, were inconsistent with the true functions of a University, and would prove detrimental to the interests of education in this country. The Senate, in August 1850, adopted a series of resolutions to be submitted to Sir G. Grey, which expressed their desire to withdraw the regulations, and to substitute the following instead, namely, that every one who had completed an undergraduate's course at the other universities might be admitted to the degree of B.A. in the London University without having matriculated there. With reference to the second branch of the supplemental charter, the Senate forbore to examine the grounds of the objections of the graduates, and deprecated any discussion of the policy of granting certificates of proficiency until they submitted some proposal to the Secretary of State for making use of the powers vested in them. The meeting then virtually resolved itself into a "committee of the whole house" on the rules, which were carried after about two hours' discussion, numerous amendments being proposed. One amendment, after being argued for certainly an hour, was only supported by the mover and seconder. A vote of thanks to the chairman terminated the proceedings.

KING'S COLLEGE HOSPITAL.

A GENERAL court of the governors of this hospital was held on Monday last, and a report for the past quarter was read. It appeared that on the first of January, 114 patients were in the house; 300 had since been admitted, making a total of 414. Of these 250 had been cured or relieved; 16 were discharged incurable, unrelieved, or disorderly; 32 died; and 116 remained under treatment at the close of the quarter. The out-patients numbered 6,894; and the total admissions since the opening of the hospital were 13,048 in-door, and 182,605 out-door recipients. The report having been adopted, a Parliamentary bill for a charter of incorporation was examined by the governors, and, at the request of the meeting, Sir Walter Riddell consented to watch its progress in committee.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 25th ult.:—Messrs. R. Carter—F. Allday—J. G. Darlington—J. B. Cockburn—J. Skinner—W. Jackson—J. B. Blackett—W. B. Stephens—C. Whatmough.

OBITUARY.

At San Francisco, California, James Bruce, surgeon, late of Maitland, New South Wales, eldest son of the late Robert Bruce, Esq., Captain R.N.

BOOKS & PERIODICALS RECEIVED

FOR REVIEW

DURING THE LAST TWO WEEKS.

On the Structure of the Membrana Tympani in the Human Ear. By Joseph Toynbee, F.R.S.

On the Mode of Origin and Propagation of Epidemic Cholera in Huddersfield. By John Taylor, M.D.

On Articulate Sounds, and on the Causes and Cure of Impediments of Speech. By John Bishop, F.R.S. F.R.C.S. &c.

Practical Observations on the Teeth. By Henry Jordan, Dentist.

Letters on Animal Magnetism. By Wm. Gregory, M.D. F.R.S.E.

An Apology for the Microscope, &c. By R. D. Lyons, M.B. T.C.D.

London Journal of Medicine. May.

Edinburgh Monthly Journal of Medical Science. May 1851.

Pharmaceutical Journal. May 1851.

Monthly Journal of Homœopathy. May 1851.

Comptes Rendus. Nos. 15 et 16, Avril 14 et 21, 1851.

AMERICAN PUBLICATIONS.

The Prospective Progress of Medicine in America. By Horace Green, A.M. M.D.

Introductory Address delivered at the New York Medical College. By Horace Green, A.M. M.D.

New York Medical Gazette. March 1 to 15, 1851.

Philadelphia Medical Examiner. March and April 1851.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 3.

Births.		Deaths.	
Males....	757	Males....	484
Females..	730	Females..	510
	1487		994

Causes of Death.

All Causes	994
Specified Causes	983
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	177
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	44
2. Brain, Spinal Marrow, Nerves, and Senses	128
4. Heart and Bloodvessels..........	42
5. Lungs and organs of Respiration	146
6. Stomach, Liver, &c.	60
7. Diseases of the Kidneys, &c.	16
8. Childbirth, Diseases of Uterus, &c.	6
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin..........................	2
11. Premature Birth	21
12. Old Age	45
13. Sudden Deaths	9
14. Violence, Privation, Cold, &c....	34

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	14	Convulsions........	46
Measles............	31	Bronchitis	68
Scarlatina	13	Pneumonia	53
Hooping-cough	57	Phthisis	145
Diarrhœa..........	8	Lungs	11
Cholera............	0	Teething	9
Typhus............	25	Stomach	4
Dropsy	17	Liver..............	15
Hydrocephalus	50		
Apoplexy	23	Childbirth	3
Paralysis	22	Uterus	3

Remarks.—The total number of deaths was 112 *above* the average mortality of the 18th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·

" " " Thermometer^a ...... 42·

Self-registering do.^b ....Max. 73° Min. 2

^a From 12 observations daily. ^b Sun.

Rain, in inches, 0·29.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 12° *below* the mean of the month.

NOTICES TO CORRESPONDENTS

The papers of Dr. Morehead, Dr. F. J. Brow and Dr. Ogston, in our next.

Dr. Seaton.—The Queries shall be published the following number.

J. R. H.—The question, as now proposed, receive our consideration.

"Convention of Poor-Law Medical Officers." We shall have great pleasure in publishing Report. Our number was quite full before reached us. It shall appear next week.

"Prize Distributions."—These announcem are only inserted as advertisements. We ha for a long period, been obliged to make th general rule.

In answer to an inquiry respecting the prop General Index, we have to state that plan has been abandoned, owing to the wan a sufficient number of subscribers.

Received.—Mr. Tucker—Dr. J. B. Thompso

Corrigendum.—In our last number, page col. 2, line 23, for "Mr. Morrison, Jun." "Dr. Henry Monro."

Lectures.

CLINICAL LECTURE ON CASES OF LEPRA.

(Delivered at King's College Hospital, Nov. 19th, 1850.)

By R. B. Todd, M.D. F.R.S.
Physician to the Hospital.

[Reported by Lionel J. Beale, M.B., Medical Associate of King's College, London.]

Lecture XXIII.

Gentlemen,—There are at present four cases of Lepra in the house,—all of them excellent examples of this cutaneous affection. I am therefore induced to direct your attention to-day to the consideration of these cases, and at the same time to make some remarks on the pathology and treatment of those closely allied forms of skin diseases—lepra and psoriasis.

I need scarcely remind you that the class of scaly diseases, in the arrangement of Willan and Bateman (which for all practical purposes has not been surpassed), consists of the diseases severally denominated lepra, psoriasis, pityriasis, and ichthyosis. All these affections have one feature in common,—namely, that there are spots or patches of various sizes of inflammation of the skin, over which there takes place an undue formation of epidermis. This accumulates to a certain extent, but is apt to be partially rubbed off, as branny scales, by the friction of the clothes.

At no period of these diseases is the skin broken by solution of continuity; nor is there any ulcerated or even abraded or raw surface. The inflamed skin is always covered, and indeed too well covered, by a superabundant epidermis. It must, however, be excepted, that occasionally cracks or fissures occur in the affected parts, especially in lepra and psoriasis: but these form no essential feature of the disease.

When the skin exhibits a number of red circular patches, of which the largest are seldom larger than half a crown, but the smallest not larger than a fourpenny piece, these spots being covered by scales, the disease is termed lepra vulgaris. Some of the larger of these spots are white, by reason of the quantity of dry branny epidermis which covers them: and the smallest look like little red pimples, with only a few small scales on their surface or along their margin.

These characters are well marked in the Irishman, O'Farleigh, in Sunderland Ward, as well as in Frederick Cope, in Fisk, who is, however, now under a coating of tar, and the characters of the eruption are therefore somewhat modified.

When the red spots assume a more extended and less regular character, lying near and often running into each other, not exhibiting the circular form, but tending to spread in an irregular manner, the disease is termed psoriasis. If we examine into the clinical history of these two diseases we shall find that they differ from each other mainly as regards the form of the eruption, and that the pathological conditions under which they occur are the same: there is no reason, therefore, why, as regards practical purposes, they should not be regarded as different forms of the same disorder, rather than as two distinct diseases.

When the inflammation of the skin is less intense, but diffused over a greater or less surface, very commonly the skin of the chest, and extending down the arms, and when it gives rise to the secretion of a branny epidermis, which is frequently of a yellowish or light brown hue, the term *pityriasis* is applied to the disease.

In this disease a considerable surface of the skin is covered with a sort of map of a discoloured cuticle, which is very similar on both sides. It is very slightly raised, and may be compared to an extended freckle, or to a series of large freckles which have become confluent. The scales are very small and dry, and the disease seems to consist essentially of an undue secretion of the epidermic pigment cells.

Dandriff of the scalp is a very common kind of pityriasis; but in this you have none of the discolouration to which I allude; that form which I have described is called pityriasis versicolor, where the skin is mottled by an abnormal formation of dark pigment. We had an excellent example of this disease in Fisk ward; many of you may remember that I drew your attention to it at the time, and to the fact that, as is so often the case, the patient experienced no inconvenience from it, and was quite indifferent to it, having been admitted into the hospital for another complaint. Indeed, a patient may be affected with pityriasis versicolor for many years without being aware of it, until one day, happening to look at his chest in the glass, he is astonished to find it covered with an eruption. So little inconvenience does this affection often occasion that it is quite unnecessary to interfere with it in most instances. It will at times cause some slight irritation, and small branny scales will be rubbed off the skin by the contact of the clothes.

A fourth form of scaly disease is characterized by the development of very thick dense hard scales, always very dry, and not easily detached. In rare instances you may see the whole body covered with this ugly disease, which from the resemblance of the scales to those of a fish is termed *ichthyosis*.

Now of all these forms of scaly cutaneous disease, those which you will have most frequently to encounter in practice, and which you will find most amenable to treatment, are lepra and psoriasis; and it is for this reason that I wish to-day to call your attention to the examples of lepra now in the house. You have the opportunity of witnessing lepra in its most common forms,—namely, as produced by the presence of the poison of syphilis in the system—the syphilitic lepra, and as arising from some peculiar modification of the general health—lepra vulgaris.

I shall find it most convenient, with reference to what I have to say respecting the pathology and treatment of this disease, to call your attention first to two cases of syphilitic lepra.

Case I.—The first case is that of Sarah Hutchings, in Lonsdale Ward. This woman, who is only twenty-two years of age, has the eruption very well marked. You may see on various parts of her body—the neck, chest, abdomen, arms, and scalp—small spots, covered with small and dry scales, none being larger than a shilling, and many less than a fourpenny-piece: they are of a reddish colour, and have a very characteristic coppery hue, which, to the practised eye, is at once suggestive of the syphilitic origin of the disease; so that practitioners who are accustomed to see many of these affections can at once tell the nature of the malady by this character alone. The small size of the spots, their greater regularity of form, which is always circular, the less abundant secretion of cuticle, and the coppery hue of the discolouration, are the more important distinctive features of the syphilitic as compared with the non-syphilitic eruption.

I need not dwell upon the importance of exercising your powers of observation during your hospital attendance; but, if there is one reason more than another which ought to weigh with you in this matter, it is this, that, in such matters as distinguishing eruptions from one another, and especially different forms of the same eruption, it is only frequent observation which can give the facility and the confidence which are so essential in practice. A mistake in the diagnosis of a cutaneous affection is at all times serious to the interests of the patient and to the reputation of the medical man; but that mistake may be much more serious if the question be between a syphilitic and a non-syphilitic eruption; and still more so if the patient be a female. Now it so happens that our patient had been for many weeks an inmate of an hospital where she had been taking pitch pills—a circumstance which would seem to indicate that the syphilitic nature of the affection was overlooked; and it is curious, in relation to the clinical history of the malady, that the eruption remained stationary during all that time.

The history this patient gives of herself is this. She first suffered from a discharge from the urethra, without (as she states) ardor urinæ. This discharge came on about three weeks after she had been violated while in a state of insensibility. She denies that at any time a sore existed on the external parts. All that we can make out is the primary occurrence of a urethral discharge, of the exact nature of which we can form no accurate opinion. On examination, nothing can be discovered but slight excoriations of the vulva. She positively avers that it was not accompanied by pain on micturition, which is unfavourable to the idea of its gonorrhœal nature.

Now, without going into the disputed question as to whether secondary symptoms of this kind may result from simple gonorrhœa, I may here remark that, in this case, it may have happened, as undoubtedly occurs in others, especially females, that an ulcer may have been developed within the urethra, forming the primary syphilitic symptom. The ulcer is very obstinate, and does not readily heal, in consequence of the constant passage of urine over it. The system is infected just as if the ulcer were on any external part, and secondary symptoms follow just in the same way.

The syphilitic nature of the eruption in this patient is confirmed by the subsequent history. But we cannot place much reliance on the patient's accuracy as to dates, nor on the truth of the history she gives o herself. According to her own statement, i was not until ten months after the urethra discharge showed itself that she suffere from pains in her bones and large joints, a well as from pain in the chest, and fever and these pains were soon followed by th cutaneous eruption over the abdomen, th back of the neck, and on the arms. Sh had likewise a sore throat, of a kind whic I think, not uncommonly accompan syphilitic lepra. There is no ulceration this form of sore-throat, but the muco membrane, especially that in the region the tonsils, is red and thickened in a c cular patch on each side. The patc are no doubt exactly of the same nat as those on the skin, modified by the c stant presence of moisture; and the thi ened and prominent state of the membrane is due not merely to some degree of effusion in the sub-basement areolar tissue, but also to an increased amount of epithelial formation on the free surface of the basement membrane.

Here, then, we have most of the usual secondary effects which the poison of syphilis produces in the system—sore-throat—some amount of periosteal and articular irritation, and lepra of a peculiar character—all following the occurrence of some primary disease of the genital organs.

CASE II.—The other case of syphilitic lepra is that of a woman in Lonsdale Ward (vol. xxxi. p. 128), also twenty-two years of age. This patient contracted a primary sore on the vulva about four months ago, and this was followed in five weeks by an eruption, commencing as small papulæ, which gradually increased in size, and soon became covered with thin scales.

At the present time she has also those enlargements of the skin and mucous membrane about the anus and vulva, to which the name of mucous tubercles or condylomata is applied. She does not appear to have ever had much throat affection, or to have suffered from any periosteal irritation: but the throat looks rather red, and the mucous membrane a little swollen, as if it had suffered from recent inflammation. The general characters of the eruption in this case are just the same as in the last: there is the copper colour, and the slight scaliness; the spots are more symmetrically situated on each half of the body, and they observe a greater regularity of form, as well as uniformity of shape: they are most numerous on the lower extremities.

CASE III.—Now let me contrast with these the two cases of common lepra. One is that of Frederick Cope, about 17 years of age (vol. xxxii. p. 44), by occupation a copperplate printer. As it is not very uncommon to find these chronic scaly cutaneous diseases propagated from father to son, the family history is always interesting in cases of this description. Our inquiries have, however, elicited no evidence that in this case the disease was inherited.

The eruption is of about six months duration, and commenced, as it so frequently does, over the knees. The next place on which it appeared was in the region of the elbows—in both situations affecting the side of extension. It is not uncommon to find spots of lepra affecting the regions of the elbow and knee only, beyond which they will not extend, and they may remain so for years without any annoyance to the patient.

This was not, however, our patient's lot. The eruption extended over the thighs and arms, and appeared also on the abdomen, the back, and on the scalp, leaving the face free. The spots came out as reddish elevations of the skin, which were at first smooth, but soon became covered with numerous silvery white scales.

It is remarkable how seldom the face is the seat of this affection; but it frequently attacks the scalp. We also find it on those parts of the face upon which hair is apt to grow thickly, as the chin and lips, and the region of the whiskers. From these situations it will sometimes extend over the face, particularly from the scalp on to the forehead.

Another remarkable feature in lepra—and it is that by which it is most remarkably contrasted with psoriasis—is that the patches are generally small, seldom larger than a shilling, or at most half-a-crown, and often much smaller. Sometimes, however, patches are developed very near to each other, and will even become confluent; and, when this latter fusion of patches takes place, the eruption puts on very much the characters of psoriasis. The spots increase in size by spreading gradually from centre to circumference; and, when the disease is about to get well, the cessation of epidermic secretion commences in the centre. The patches of lepra are also distinguished by having an elevated margin and a slight depression in the centre.

Now all these characters you will find well marked in this man, Cope; and, although his body is covered with patches of lepra more thickly than we commonly find it to be, his face is quite free from it. The scaliness of the eruption is particularly conspicuous; and the contrast with syphilitic lepra is very marked, in the absence of all coppery hue from the patches, and in the abundant secretion of epidermic scales upon them, as compared with their scantiness in the syphilitic form.

Is there anything in the history of the case which will account for the eruption coming on? In this instance we cannot account for it. The lad works very much in workshops where a good deal of the dust of charcoal is floating in the air; and it is a curious point, but one upon which little stress need be laid, that he has been working along with a young man affected with a similar eruption. I say, one need not lay much stress upon this latter point in the history of the case, for it has been long ago shown, and I believe all practitioners are agreed in the opinion, that these eruptions are not contagious. If, indeed, lepra or psoriasis were communicable, we should have frequent examples of a wife catching it from her husband, or *vice versâ*; I have myself known many instances in which either wife or husband had this disease without communicating it, and I have never heard of a well authenticated instance where the one seemed to catch the disease from the other.

Case IV.—Our second case of lepra vulgaris is that of an Irishman, Darby O'Farleigh (vol. xxxi. p. 141), in Sutherland ward. He is a labourer, 20 years of age, unmarried, of temperate habits, and usually enjoys excellent health. About a year ago, after having lived somewhat worse than usual (his sole diet being potatoes and milk, and them in insufficient quantity), he observed some circular red spots, which first appeared upon the chest, and afterwards on the extremities and other parts. He states that the eruption spread very rapidly, and that it was cured in a fortnight by corrosive sublimate, in the form of ointment applied externally; but about two months ago it again came out, the patient at this time likewise being out of work. This second eruption followed a similar course to the preceding, presented much the same characters, and for this he was admitted into the hospital.

The eruption in this case exhibits characters like those of lepra, as well as of psoriasis. On the trunk you will find many well-marked patches of various sizes, and on the elbows, wrists, and knees, all on the side of extension, there are similar patches, covered densely with white scales. And in these latter situations there are fissures or *rhagades*—cracks extending through the diseased patch to the subcutaneous tissue. These fissures are much more apt to occur in the inveterate forms of psoriasis than in lepra.

It seems highly probable, in this case, that the eruption of lepra was due to the derangement of the digestive organs, caused by insufficient nutriment. Both attacks were preceded by a season of privation and of scarcity.

Having thus pointed out to you the more important points in the history of these cases, I must now beg your attention to a few remarks upon the pathology of lepra. In discussing this subject, the problem we have to solve is this—what can give rise to these remarkable patches on the skin? why do they assume their peculiar form and other characters? and why do they prefer particular situations of the body?

Now we gain an important clue to the decision of this question by our knowledge of the clinical history of syphilitic lepra. That knowledge amounts to this: by the contact of a certain diseased secretion a primary sore is generated; this is followed by more or less of febrile disturbance, sore throat, articular and periosteal affections, and a peculiar eruption of the skin. It may be taken as quite certain that the cause of all these morbid phenomena is to be found in the introduction into the system of a particular poison. That poison need not be introduced into the system through a mucous membrane; if it be brought in contact with an open surface on the skin, this is quite sufficient to procure its introduction into the system. In this way medical men sometimes become infected, as in a case which lately came before me:—A highly respectable practitioner attended in her labour a woman in whom it never occurred to him to suspect any syphilitic disease. It so happened that at the time he had an abraded surface on one of his fingers. An obstinate ulcer formed here, and secondary symptoms ensued, extending even to disease of the bones. He was at first quite at a loss to explain the cause of his symptoms, when the woman whom he attended applied to him to be cured of secondary symptoms, having an eruption exactly similar to his own: he at once saw the source of his infection.

It is through the blood that such a poison must be introduced; there is no other channel through which it can be so conveyed through the system and to such various parts.

We learn, then, that a particular poison generated in the body of another may, by its introduction into the blood, create an eruption on the skin which presents characters very much resembling those of common lepra; and the person in whom the poison is first generated may poison several others, giving rise to the same morbid phenomena in each.

Thus a particular modification of the syphilitic poison may produce, by its introduction into the blood, a leprous eruption on the skin. So, also, other poisonous matters will cause cutaneous eruptions: iodide of potassium will cause an eruption of urticaria or of herpes, or even an eruption of somewhat of the scaly character; mercury will cause a particular form of eczema. The poison of the exanthemata generate each its peculiar form of eruption; and the typhoid poison also occasions a very characteristic rash on the skin.

Surely, then, nothing can be more reasonable than to assume that the eruptio of lepra vulgaris, so similar to the syphilitic form and affecting similar parts, is du to an analogous cause—namely, to th presence in the blood of a poisonous agen But the questions arise, how and where i this generated? can it be isolated? can i be communicated from one to another?

To the first question we may answe

that it is generated in the primary and multiplied in the secondary assimilating processes. But as to what gives rise to its generation we can form no definite idea: why it should be generated in Cope, who fed well and had plenty of work; and why it should also be generated in poor Darby O'Farleigh, who wanted work, and fared wretchedly, are not to be so easily explained. This, however, must not be forgotten as bearing upon these questions,—that an excess of food, or a supply of a kind of food which is not readily digested by the stomach of the patient in question, may derange the assimilating processes just as much as an insufficient supply of poor food.

To the second question we must answer, that the poison of lepra cannot be isolated, no more than we can isolate the syphilitic poison. But, in reply to the third question, it may be affirmed that, although the lepra vulgaris is not communicable from one to another, as syphilis is, yet, in another sense, it may be propagated from one to another: I mean, that, while it is not contagious, it may be propagated by hereditary descent.

And this latter fact, which I suppose the clinical history of lepra establishes to the satisfaction of even the most scrupulous, is favourable to the view of its pathology which I am endeavouring to advocate. For most—if not all—diseases which seem to arise from a *materies morbi* in the blood, are apt to be propagated by hereditary descent.

Another feature of these scaly diseases which favours this humoral view of their pathology is the disposition which the eruptions manifest to affect the skin symmetrically. Many diseases referable to a materies morbi exhibit this tendency to symmetry; as has been shown by Dr. Wm. Budd, in a most valuable paper in the Med. Chir. Transactions, in which he discusses with great ability the pathology of lepra and psoriasis.

To conclude, then, this part of my subject, which time forbids me to treat of at greater length, I would sum up thus: that as the syphilitic lepra is due to the introduction into the blood of a poison generated in the body of another as the result of impure and promiscuous sexual intercourse, so the lepra vulgaris is produced by a poison generated in the body of the patient—an effect of some disturbance of the primary and secondary assimilating processes; or of which the germs, as it were, were transmitted from either parent, and were multiplied in the secondary assimilating processes of the patient.

And now as to the treatment.

Following the course which I have already pursued, we may first speak of that of syphilitic lepra.

If we view the pathology of this affection as I have expressed it, it seems the most reasonable mode of treatment that we should find means either to eliminate or to neutralise the poison upon which all these destruction effects. Our treatment according to this view may be antidotal, or eliminative; nor is there any reason why we should not employ both these modes of treatment at the same time. Antidotal, by the administration of such remedies as, meeting this poison in the blood, may deprive of its virulence; eliminative, such as will promote the excretion of the poisonous matter from the system.

And, in truth, this is very much the sort of treatment which we are in the habit of adopting on mere empirical grounds, and which we are justified in pursuing from its general success.

As antidotes to the syphilitic poison, we administer mercury and iodide of potassium; for purposes of elimination, we pay close attention to the general health, promoting the excretions from all the emunctories by means not tending to weaken.

On this two-fold plan we have been treating both the young women whose cases I have detailed to you, and with every prospect of success. Mercury is given in the form of blue pill, of which they take five grains night and morning; our object is not to produce a quick salivation, but rather to affect the system slowly and gradually by a mild and unirritating preparation of the mineral. And at the same time we give iodide of potassium, which favours the mercurial influence, and no doubt exercises some specific antidotal power of its own.

With reference to the administration of both these drugs I have this remark to make, that our rule should be, *festina lente*. It is when too much is thrown into the system, with a desire to produce a rapid effect, that certain accidents and untoward events are apt to arise. Hypersalivation, violent iodism, irritation of the bowels, of the skin, peculiar nervous affections (erethism), are caused by the too free and too rapid introduction of these powerful poisons into the blood. It is also very advisable in many instances to withhold for a time the administration of one or both of these remedies, renewing them as occasion may suggest. And on administering mercury, it is often much desirable to introduce it by the skin than by the stomach.

The cure of syphilitic lepra is a slow process, and therefore, when you take in hand a patient labouring under this disease, take care to prepare him beforehand for the tardiness of the process. A patient cured of syphilitic lepra within three months will have no cause to complain;

but much more frequently a longer time than that is necessary.

And you will expedite matters if, at the same time you administer antidotes, you promote elimination by good diet, the occasional use of the warm bath, from time to time the use of aperients, &c.

Exactly the same principles of treatment are applicable to lepra and psoriasis. You will find as antidotes, arsenic, iodine, mercury, tar, and perhaps also alkaline remedies, as the liquor potassæ; and for purposes of elimination we may purge, or sweat, or use diuretics, or cause the patient to bathe.

With Cope we have been using an antidotal treatment chiefly; with O'Farleigh an eliminative treatment exclusively.

Of all the antidotes I prefer tar, because I am quite sure that if it does no good it will do no harm. I cannot say this of mercury or iodine, and still less of arsenic.

You all know the accidents which can happen to interfere with the administration of mercury and iodine. Arsenic is apt to produce a peculiar cachexy, with irritable stomach and emaciation, at the same time that the spots of lepra may disappear, as they most frequently do, or they may continue untouched.

Arsenic is a two-edged sword, which those who use it had better handle with great circumspection, but which is better left in its sheath. Its efficacy is not so certain that we should be very anxious to use it. I have seen lepra return while the patient was still using it; and I have often seen it return very soon after the arsenical course has been discontinued. The most safe and prudent way of using it is that proposed by Mr. Hunt,—namely, to give it, not in increasing, but in decreasing doses, commencing with five minims of Fowler's solution, and aiming, not so much to give a large quantity, as to administer it for a very long time.

Tar is, as I have said, the safest remedy. The proper kind is the wood or Archangel tar,—*the pix liquida.* It may be given internally in capsules, or applied externally, or both. We have been administering it to Cope in both these ways. He takes fifteen or twenty minims three or four times a day, and at the same time he is tarred all over, and lies in tar sheets. This latter part of the practice is scarcely applicable to private practice, but I believe it to be a most useful measure. About once a week Cope uses a warm bath to wash off the tar, and to enable us to ascertain what progress is being made in the cure.

Under this treatment Cope is making decided way; the scales are clearing off, and many of the spots are evidently healing in the centre, where healthy skin is appearing. Allied to the tar is the remedy lately much commended for external use by Devergie, the *huile de cade*, which is obtained by distillation from the juniper.

O'Farleigh has been treated by good diet and moderate purging, with a little blue pill at night, and with the white mixture, consisting of Epsom salts and magnesia, in the morning, and warm bathing on alternate nights. He is improving very manifestly under this treatment.

No plan of treatment that I know of effects a radical cure of lepra or psoriasis. Whatever plan you adopt, the disease, whether it be antidotal or eliminative, is apt to return again. This is an additional reason why you should observe the caution I have given you,—namely, to prefer the plan which will do no harm. You are not justified in running the risk of damaging your patient's constitution by using a remedy which at best can only produce a temporary cure.

Something, however, may be done to retard the recurrence of the malady. The continuance of eliminative measures, and the close observance of hygienic rules, will accomplish this object. Warm or cold shower baths once or twice a day, thorough good friction of the skin, good wholesome diet, and plenty of air and exercise, are the means most likely to conduce to this end. In persons of delicate and strumous constitution, the cod-liver oil is very useful during the continuance of the eruption, and for some time after.

No treatment is so hard to carry out as that which enforces rigid and self-denying rules of health; and you will constantly find it easier to induce patients to swallow doses of nauseous and even poisonous drugs, than to take active exercise, or submit to a shower bath. The water-cure establishments, of which so many are now found in different parts of the country, are, to a certain extent, useful for complaints of this kind; they are medical hotels, in which patients must do as they are told; they must be washed at certain times, and fed at certain times and on certain articles of food. But even all this washing does not cure lepra, for it returns as soon as the patient leaves the hotel, unless he continues to observe the discipline which alone can keep the malady under. A patient who has had lepra ought to know that he carries about him in his system a dormant leaven, which needs but little to excite it to actual fermentation.

It is well for you also to bear in mind that it is no uncommon thing for lepra or psoriasis to disappear without any treatment, and to return again, it may be, after a lapse of a considerable time. This is a feature of the clinical history which ought not to be lost sight of in estimating the value of different kinds of treatment.

Original Communications.

A CASE OF PERICARDITIS,

IN WHICH FRICTION SOUND WAS PRESENT, AND IN WHICH RECOVERY TOOK PLACE WITHOUT PERICARDIAL ADHESION.

By C. Morehead, M.D.
Professor of Medicine, Grant Medical College, Bombay.

On the 22nd November, 1849, Dr. W. S. Kirkes read, before the Abernethian Society, a paper "On the Rarity of Pericardial Adhesion." This paper was published in the London Medical Gazette of the 5th April, 1850.

The object of Dr. Kirkes' communication is to show reason for believing that the thin, variously sized opaque patches frequently met with on the surface of the heart after death, may be the remains of the lymph effusions of formerly existing acute pericarditis. On this belief Dr. Kirkes would rather ground the inference, that there is error in the commonly received opinion, which maintains that when there has been acute pericarditis with friction sound, followed by disappearance of the sound and restoration to tolerable health, this result has been effected by pericardial adhesion.

Dr. Kirkes, in a foot-note to his paper, adverts to a case in which pericardial friction sound had been present, and disappeared, and in which death took place about three months afterwards, but in which no pericardial adhesion was found.

These views of Dr. Kirkes have so important a bearing on the prognosis of pericarditis, that it is manifestly most expedient that every opportunity should be taken of recording facts which may tend to confirm or disprove them. It is with this object that I transmit the following case, in which thin opaque patches on the surface of the heart were the only remains of a formerly existing acute pericarditis, during which pericardial friction sound had been present, and from which there had been complete recovery, with disappearance of the friction sound. Death took place from cholera eight months afterwards, and gave the opportunity of examining the heart, where no pericardial adhesion was found.

Case.—Payjal Dongur Sing, a Hindoo fruit-seller, 28 years of age, in tolerable good condition, for six years addicted to the habit of opium smoking, was admitted into the Clinical Ward of the Hospital on the 28th June, 1850, having been ill only since the day preceding. The countenance was somewhat anxious. The respiration short and hurried (68 in a minute), and almost entirely abdominal. The skin was of natural temperature; the pulse 78, rather small, but sharpish; and the tongue was a good deal furred. On percussion of the anterior part of the chest no defective resonance was detected, and vesicular respiration was distinct and unmixed. In the præcordial region, over a spot about one inch and a half in diameter, just internal to the nipple, there was heard a *murmur, partly of a rubbing, partly of a creaking character*, and in this situation there was tenderness on pressure. The sounds of the heart were distinctly audible, and the impulse was much increased. He pointed to the præcordial region and to the margin of the left false rib as the seat of pain, felt since the day preceding his admission. The pain did not extend to the back or left shoulder. He was quite free from all pain of the limbs; but he stated that he had suffered eight years previously from a severe attack of swelling and pain of the joints, chiefly the knees and ankles, and the marks of scarification were still visible on the knees. For this affection of the joints he also underwent two long courses of mercury, and continued ill for seven months. Subsequently, however, he had enjoyed good health. The only circumstance to which he could attribute his present attack was exposure to wet, to which he had been subjected ten days previously.

Forty-eight leeches were applied to the præcordial region, followed by a blister. Three, then two-grain doses of calomel, with an eighth of a grain of tartar emetic, and a quarter of a grain of opium, were given every fourth hour; and on the 3rd of June the gums were tender, and the mercurial was omitted. On the 1st July the mercurial influence was still more developed. On the 29th June the friction sound was still distinct. On the 3rd it had disappeared, and was never again heard. He was discharged well from the ward on the 10th July.

This patient again presented himself at the Hospital on the 21st August, having experienced some return of uneasy sensations of the præcordial region, but the sounds and action of the heart were natural; and after the action of some aperient medicine he was quite relieved, and left the hospital on the 22nd August.

He was not again seen till the 7th March, 1851, when he was admitted in the collapsed stage of cholera, the disease being at the time prevalent. Reaction did not take place, and he died on the evening of the 10th.

On examining the body after death there was no increased quantity of fluid found in the pericardium, and there were not any adhesions between the pericardium and the heart. The inner surface of the pericardium was pale, and without deposit of any kind. The heart was rather small; there was no dilatation of any of its cavities. Over the centre of the anterior wall of the right ventricle there was an opaque patch, about half an inch long, and quarter of an inch in breadth, which, with moderate traction with the forceps, could be separated from the serous covering of the heart, in the form of a thin fine layer of areolar tissue. The free surface of the patch was quite smooth. At the upper part of the left ventricle there was a smaller and thinner patch. Elsewhere, here and there on the surface of the heart, other opaque spots were noticed. The endocardium was healthy, as also were all the valves of the heart. There were two or three small spots of commencing deposit on the inner surface of the ascending aorta.

This notice has been abridged from the full report of the case made by Mr. Paul Francis Gomez, one of my clinical clerks

Bombay, March 16, 1851.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 8th May, 1851:—William Edward Hayman, Abingdon, Berks—Henry George, Kirton Lindsey—Thomas Bickerton, Liverpool—John Davies Weaver, Chester—Thomas Lancaster, Radcliffe Bridge.

EXTERNAL INSPECTION OF THE BODY OF A MAN KILLED BY LIGHTNING.

DISCOVERY OF RIGOR MORTIS.

By Dr. Frederick James Brown,
Strood, Rochester.

An open barge, with a crew of two men, and a lad aged seventeen years, had just anchored in Kit Hole Reach, about eight or nine miles below Rochester, when a severe thunder-storm burst over the River Medway, on the afternoon of the 26th April. The lightning struck the sprit, mast, and mast-step of the barge at four o'clock, which it split; and it struck down one man and the lad. The whole crew were engaged in stowing the foot of the sail, which had been previously brailed, and the deceased had one foot on the lower end of the sprit, thus being placed immediately over the lad. The other man was on the opposite side of the mast.

The uninjured man states that the hold of the barge appeared suddenly to be full of flame, whilst there was a strong odour of fire and sulphur. He saw his companions instantly fall down. The deceased, who was his brother, was quite dead; and the lad lay insensible for an hour, after which he commenced crying, and made complaints of pain in the region of the heart. On the return of the barge to Rochester, the lad was conveyed to Melville Hospital, Brompton, suffering with severe conjunctivitis, and presenting red stripes on his body and on one limb.

The body of the deceased was inspected twenty-eight hours and a half after death, but the friends would not grant permission for an examination by dissection, as they purposed removing the corpse to Maidstone for interment. It was stated, that, at the instant of death, the tongue was black and the mouth full of blood; and that about sixteen hours subsequently the features were black. At the period of inspection the countenance was pallid and contracted, and the pupils somewhat dilated.

Rigor mortis was strongly marked in the limbs.—The lower portion of the left ear and the whole of the left side of the neck were of a purple colour, and the subcutaneous tissue, as well as the skin, appeared to be affected. Over the epigastrium there was a blistered patch, larger than a crown-piece, with the cuticle in shreds. Red stripes, presenting an arboriferous disposition, covered the forepart of the abdomen, and were directed, at the lower portion, towards the right hip: a red patch was situated on the calf of the right leg.

The flannel shirt of the deceased was singed on its inner surface over the loins and at the breast; shreds of cuticle were adherent to the flannel at the latter situations.

The course of the lightning was plainly indicated, and in the case of the lad it was continuously marked. In both instances the lightning struck the left side of the head and neck, and passed along the forepart of the body to the lower extremity.

It is much to be regretted that a dissection of the body could not be obtained; and this case would not be reported in this imperfect manner were it not that it exhibits the external characters of death by lightning, and determines the presence of post-mortem rigidity

⁂ It has been rather strongly asserted, upon theoretical principles, that the bodies of those who are killed by lightning do not become rigid. The above case shews that the rigor mortis was well developed in about the average period after death.—Ed. Gaz.

QUESTION FOR A CONCOURS IN BELGIUM.

The Belgic Academy of Medicine have proposed the four following questions for a *concours*:—

1. To expound the causes, symptoms, character, and treatment of the diseases peculiar to workmen in potteries.—Prize, a gold medal valued at six hundred francs.

2. To expound according to scientific facts, and by new experiments, the theory of poisoning by contact of surfaces. Pyæmia is included in this question.—Prize, a gold medal of the value of six hundred francs.

3. To give the history of epizootic pleuropneumonia, its causes, and the best means of prevention.—Prize, a gold medal valued at eight hundred francs.

4. To trace the medical history of carbuncular diseases in the different forms under which they attack domestic animals; also the part which may be performed in their production by peculiarities of the soil, and the particular cryptogamous plants which attack their provender.

AN ESSAY
ON
UNHEALTHY INFLAMMATIONS.

By M. Broke Gallwey,
Surgeon, Royal Regiment of Artillery, Devonport.

[Continued from page 461.]

THE ALLIANCES OF ERYSIPELAS.

Erysipelas of Fauces and Windpipe continued—Its Early History, in this country, by Messrs. Ryland, Wood. and Dr. George Budd—Dr. Tweedie's opinion of its intimate relationship to the Diphtherite of Bretonneau—distinctive Characters of the latter—Drs. Watson, Cheyne, and Gull—Are the "Laryngitis Œdematosa" of Authors and Erysipelas of Larynx the same Disease?—Is there an Active and Passive Form of Œdema of the Larynx, or, is Œdema of these parts the result of Inflammatory Action?—Does the Laryngitis ensuing upon Epidemic Conditions of the Atmosphere, and in the Course of the Exanthemata, essentially differ from Erysipelas of same region; or, is their Pathology identical? *—May they not all be classed under the common head of* Erysipelatoid? *—Messrs. Porter and Lawrence on Laryngitis Œdematosa.*

Mr. Ryland, of Birmingham, has a chapter entitled "Erysipelatous laryngitis," in his book on Diseases of the Larynx,* and this writer was amongst the earliest who recognized and wrote expressly upon erysipelas of the air-passages. "The occasional extension," he observes, "of erysipelas from the face to the fauces, and thence to the larynx, gives rise to a variety of laryngitis which produces similar effects to those of the idiopathic form of this disease, and causes death by suffocation in an equally rapid manner." He records seven examples of the disease, the first two having been preceded by erysipelas of the face and neck, and thence by extension to the fauces and wind-pipe. A third took its origin in the fauces, and travelling outwards by the lips, extended itself to the face. The fourth and fifth were idiopathic forms of erysipelas setting up in the fauces primarily, the exanthem being prevalent in the hospital at the time. In the several cases related by Mr. Ryland, the morbid appearances consisted in serous infiltration of the submucous areolar tissue; in the deposition of pus within the meshes of the same structure, in three of the cases, with a sloughy condition of certain parts of it; "this lesion," he adds, "having a strong analogy with the effects of phlegmonous erysipelas when it occurs in the extremities." In two of the other cases a copious exudation of lymph was disclosed, *post-mortem*, on the investing membrane of the pharynx, glottis, and epiglottis—"The trachea, in almost all the cases, was found more or less reddened, while the œsophagus was, in every instance, quite free from the traces of inflammatory action."

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* A Treatise on the Diseases and Injuries of the Larynx and Trachea. By Frederic Ryland.

According to Mr. Ryland, erysipelatous laryngitis is "almost invariably mortal;" an opinion coinciding with that more recently expressed by Mr. Travers.

The 18th volume of the Medico-Chirurgical Transactions contains an article,[*] which affords some happy illustrations of the formidable disease under notice, though the author of it would not seem to have been aware of their precise relationship to erysipelas. But his own details disclose "internal evidence" of their identity.

The *first* case which he records is that of a man under treatment for injury of the leg, at St. Bartholomew's Hospital, in whom dyspnœa and croupal inspiration suddenly appeared. Indebted, perhaps, to the wholesome precepts of a distinguished member of the surgical staff of that institution, this ill-fated man was robbed of between forty and fifty ounces of blood on the spot by venesection, to say nothing of leeches,[†] tartar emetic, and calomel. The man, of course, died; and it is somewhat inconsistent with the *history* of the throat affection, that Mr. Wood regarded the thickening (query—submucous infiltration?) of the membrane of the larynx, as demonstrative of the *chronic* nature of the disease under which he succumbed.

His *second* case supervened upon an attack of erysipelas of the head and face, in a woman undergoing salivation for a veneral affection. As the external inflammation declined, the breathing became oppressed: tracheotomy: death. *Pathological appearances.*—"Rima glottidis much diminished by serous effusion into the membrane covering the chordæ vocales."

His *third* case, I also think, was erysipelatous in character, from the fact that that form of inflammation attacked the throat externally, as a consequence of the local applications addressed to that part for the subdual of the laryngeal disease (which, in my opinion, could not have been developed in a healthy state of the fluids), and further, from the circumstance that, at the same time, an "inflammatory swelling" took possession of the "upper part of the sternum,"—evidence sufficient of what Dr. Mason Good would have characterised as the "erysipelatous diathesis" of the patient.

The *fourth* case which Mr. Wood recites occurred, like the two preceding, in a patient who was under the dominion of mercury;[*] and reflection on this coincidence suggested to him—"whether this medicine had any influence in producing the inflammatory affection of the larynx, or whether the inflammation of this part was erysipelatous?"[†]

In March 1847, the subject of erysipelas of the larynx was brought under the notice of the profession in this country by Dr. George Budd, who read a paper on "Acute Œdematous Inflammation" of that organ, before the Fellows of the Medico-Chirurgical Society. After inviting attention to its happy infrequency as a disease, but, at the same time, to the rapidity of its progress, and usually fatal termination, Dr. Budd details some very striking examples of this tragic disorder, the history and general phenomena of which left no room for doubt in his "mind that the disease is really erysipelas." The *first* case had occurred in the person of a young man of twenty years of age, who was convalescing from "typhoid fever." A slight soreness of the throat then overtook him, which naturally attracted no particular attention on the part of his attendant, or of himself. On the day after its appearance, however, "he suddenly started up in bed in great distress, and intimated that he was choking." His face at the time was observed to be much congested; "the larynx moved rapidly up and down the throat,[*] and he pointed to it as the source of his distress." "The breathing was gasping, and attended by a croupal noise, and the pulse was feeble and intermittent." Tracheotomy was performed without delay, but failed to influence the ultimate result, or, even temporarily to ameliorate the patient's condition.

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[*] On Some Effects of Inflammation of the Membranous Lining of the Larynx. By John Wood, late House-Surgeon to St. Bartholomew's Hospital.

[†] "In a year, 29,700 leeches were bought for the use of the establishment" (Bartholomew's Hospital)—"an invasion of foreigners without parallel, till we have the influx of the great Exhibition; for the leeches bought to bite and die in this London hospital are gathered in France and Poland, in Africa and Spain."—Dickens' Household Words.

[*] Mr. Arnott observed, in the course of the discussion which ensued upon this paper, that inflammation of the windpipe had occurred in two of his own patients, who were taking mercury for affections unconnected with the veneral poison, and each within a short period of the other.

[†] Tracheotomy was successfully performed in three out of four of Mr. Wood's cases.

The pathological appearances here were entirely limited to the larynx, if I except "the back part of the tongue, which was deeply injected, and of a purplish colour." So great was the thickening from mucous infiltration, that "the inferior orifice of the larynx was reduced to a mere chink," and it did not extend even so far as the inferior vocal chords.

The *second* case which Dr. Budd records occurred on board the "Dreadnought," in the practice of Mr. Busk. It has a fearfully tragic interest in connection with this subject. A lad, ætat. 17, was under treatment for "granular conjunctiva." Several days later, "swelling appeared at the angle of the lower jaw" on one side (query, *erysipelatous* in character?);[†] "otherwise, he was in good health." At daylight the next morning "he got out of bed hastily, with crowing inspiration, and making violent efforts to breathe," and died almost immediately after. Tracheotomy was resorted to without delay, but respiration had already ceased. The condition of larynx, post-mortem, discovered in much the same state as in Dr. Budd's own case; no extension of œdema to trachea or bronchi. "A man gets up," observes Dr. Budd, "at 4 in the morning to empty his bladder, making no complaint of his breath. He goes to bed again, and suddenly starts up at half-past 6, and almost immediately dies from suffocation." He adds—"No cases like these have ever before fallen under my observation."

Dr. Budd's *third* case, also drawn from Mr. Busk's practice in the "Dreadnought," was another example of erysipelas supervening upon typhus fever, and developing itself in the posterior fauces, after rigors. This case presented an example of the more chronic form of the affection, the patient surviving the attack six days, but again sinking, after tracheotomy.[*] Its principal interest in this place arises out of the occurrence of erysipelas around the wound of the external integument—a strong corroboration, if any were needed, of the pathology of the disease within, the blood of the patient appearing to have been surcharged with the erysipelatous element.

In this case, again, the morbid action was confined to the larynx, speaking strictly of the *windpipe;* for, the pharynx adjoining epiglottis partook of the disease. Some ulcerated patches were also discernible in the former (larynx), with the addition of "numerous small raised patches of fibrinous secretion." Though unaffected by *direct* extension, "the mucous membrane of the *bronchi* was vividly injected"[†]—no doubt, by a development of the same morbid poison therein.

Dr. Budd's last case was another example of the frightful rapidity of this disorder, and, like the two preceding, was derived from the records of the "Dreadnought." This likewise supervened upon typhus fever, and the patient held out for a few hours only, and then succumbed in spite of tracheotomy. Pathological appearances in no way different from those of the other cases recorded; the morbid action being limited below by the chordæ vocales.[*]

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[*] Dr. Marshall Hall, many years ago, drew the attention of physicians to this rapid "up and down movement" of the larynx as a fatal prognostic in disease. I remember first witnessing this phenomenon myself in the last illness of the celebrated author of the "Pursuits of Literature," whose death-bed I attended at Naples many years ago.

[†] In this case there was "much infiltration and induration of the cellular tissue of the neck, extending deeply by the side of the pharynx, and to the root of the neck."

[*] Dr. Budd remarked that the operation in this case had protracted the patient's life for three days.

[†] The autopsy in this case also revealed splenization of lower lobes of both lungs, with effusion into each pleural sac and pericardium.

Dr. Budd's paper is, perhaps, the most complete history that we possess of erysipelas of the throat and air-passages; and this physician has done good service to medicine by bringing the subject so pointedly, and at the same time so graphically, under the notice of the profession.

Dr. Tweedie has thought that the form of inflammation occurring in the throat, "when erysipelas is present at certain seasons, or appears in some localities as an epidemic," is in some measure allied to the *Diphtherite* of *Bretonneau.* Dr. Tweedie is fully alive to the great distinguishing feature of the latter affection—the membranous exudation on the affected mucous surfaces; and, were it possible to set aside this consideration, I quite concur with him that there is very much in the history and symptomatology of the diphtherite which associates that disease with the morbid affection of the lining membrane of the mouth and passages beyond it, engendered by the erysipelatous poison.

Thus, while both are strikingly the result of a particular condition of the atmosphere;[†] and, each equally contagious with the other;—while *asthenia*[‡] is a prominent feature of both, and antiphlogistic treatment prejudicial, in the extreme, no less with the one than with the other[§]—while the erysipelatous action is remarkably impatient of confinement to one spot, even when invading the mucous tissues, the diphtherite manifests the same tendency to travel from the mouth or tonsils, "jusqu'aux dernierès des bronches"—and from the posterior fauces, by the pharnyx and œsophagus, even to the cardiac orifice[*] of the stomach. With these several striking points of agreement between them, the analogy is all but perfected in the fact that in several of Bretonneau's cases the throat affection was preceded by a similar condition of the external integuments; a circumstance which he seems to have been slow to recognise or even fully admit, but which he himself remarks was a striking concomitant with the affection of the mucous membrane in the disease as described by Starr and Samuel Bard.

Dr. Tweedie betrays some inconsistency in his observations upon this erysipelatous affection of the throat and air-passages; for, while he has brought forward some valuable facts illustrative of the existence of such, he remarks, almost in the same breath—"We think the application of the term erysipelas to inflammations of mucous membrane incorrect, inasmuch as the term ought to be restricted to cutaneous inflammation."—Cyclop. Pract. Med. vol. ii. p. 108. "It is necessary," says he, "to notice a form of pharyngeal inflammation which has been observed when erysipelas is observed at certain seasons, or appears in some localities as an epidemic." Again, "In the London Fever Hospital, we have occasionally observed that the inflammation commenced and was entirely confined to the throat: more generally, however, the inflammation, after beginning in the throat, has spread from the mouth to the cheek and face, or through the nostrils to the nose, and thus erysipelas has been propagated to the face and head."—p. 108. And, in another place, alluding to the contagious nature of erysipelas, he says in reference to some cases adduced by Dr. Gibson upon this question, "The disease in the sister and children was no doubt *erysipelatous inflammation of the fauces and trachea.*"—p. iii: an opinion difficult to reconcile with Dr. Tweedie's former observation.

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[*] Larger bronchi were of a dull purplish hue, and lungs partially hepatised.

[†] Fordyce, who noticed this affection,—viz., erysipelatous sore-throat, has remarked:—"It is often, but not always, produced by exposure to infectious vapours."—Practice of Physic, p. 308.

[‡] Speaking of the diphtherite, Bretonneau says, "Ces trois dernières observations" (he had been describing, 1st, the case of an old person suffering under the last extreme of want. 2dly, that of a child convalescing from fever. 3dly, of an adult "convalescente d'une fièvre putride"), "montrent, au moins, que la plegmasie diphtheritique ne perd rien de son intensité chez les sujets affaibles par des maladiés antecedentes."

[§] "Je suis forcé de declarer, contre l'opinion généralement adoptée, que les émissions sanguines m'ont paru nuire et accélérer la propagation de l'inflammation diphthéritique."—p. 88-234-35. Again, "Des faits nombreux m'ont preuvé que les émissions sanguines ne relentissent pas la marche de la phlegmasie diphtheritique." "J'ai vu sur une anglaise, qui était affectée de l'angine maligne, en apparence à un degrée fort léger, les symptômes du croup éclater immédiatement après une application de sangsues. L'écoulement du sang avait été si abondant et si prolongé, que le visage, la langue, et les lèvres étaient completement décolorés."—p. 223-4. He adds, "Non seulement les symptômes de la phlegmasie diphtheritique ne sont pas ralentis par les émissions sanguines, mais encore ils semblent se développer, au contraire, avec une rapidité insolite chez les individus cachectiques, dont le sang a été décoloré et fluidifié par quelque maladie antécédente."—Ibid. p. 296.

[*] "Souvent, en peu d'heures, les taches rouges s'étendent sensiblement de proche en proche, par continuité ou par contact, à la manière d'un liquide qui s'épanche, sur une surface plane, ou qui coule par stries dans un canal."—Ibid. p. 49.

Dr. Watson regards an affection of the posterior fauces as "almost a constant accompaniment of erysipelas."[*] And, again he says, "In almost all these cases of erysipelas of the head and face there will be found to be redness and soreness of the *throat* also; although this is not always inquired into, or complained of."—p. 828. But, Dr. Watson is still more explicit a little further on, in the chapter from which I quote. After alluding to the frequency of death in erysipelas about the head from the supervention of coma, he adds the following observations:—"There is another mode in which death is not unfrequently brought about, and which has not been so much attended to; I mean by the *affection of the throat* The patient dies sometimes almost suddenly; unexpectedly: you cannot account for the unlooked-for dissolution. But, if the throat be examined, you may, (sometimes at least) there discover the solution of the mystery. The sub-mucous tissue of the glottis and epiglottis is filled with serum or pus, the chink of the larynx has been nearly or completely closed; and the patient has died of *apnœa.* This is just analogous to what takes place externally; the enormous swelling of the eyelids, and lips, and face, is owing, in a great degree, to serous fluid poured out into the subcutaneous areolar membrane."—p. 829.

But, the picture is more vividly delineated still in his admirable chapter on acute laryngitis—"Laryngeal inflammation, and especially laryngeal *œdema*, not unfrequently take place, and prove suddenly fatal, in the course of other diseases. I have seen two or three cases of erysipelas of the head, attended, as it almost always is, with sore-throat, wherein death took place suddenly and unexpectedly, and where the epiglottis, and the edges of the fissure of the glottis, were found to be œdematous: the inflammation of the throat had extended to the areolar tissue beneath the mucous membrane of those parts, and had led to the effusion of serous fluid there." "The very same thing is apt to happen in other forms of exanthematous disease attended with sore throat, and especially in small-pox, measles, and scarlet fever. I have known a similar condition of inflammatory œdema arise from a *mercurial* sore-throat in a broken-down constitution." And, lastly—"Erysipelas is apt to be propagated from person to person by infection; and the effects of the poison, *which thus exalts the disease by contaminating the blood,*" (my own italics) "are sometimes displayed, first of all, in the fauces and their vicinity. Now, these effects, redness and thickening of the epiglottis, and of the lips of the glottis, with the effusion of sero-purulent fluid in the sub-mucous areolar tissue, sometimes prove fatal, producing death by apnœa, before the erysipelatous inflammation has time to spread far, or to declare its true character by developing itself upon any part of the external skin."[*]

Dr. Cheyne has noticed an erysipelatous form of inflammation affecting the fauces and larynx, and has generally found it run a fatal course, when the disease extends itself to the latter region. His observations, however, are confined to a single example of the affection, in which the erysipelatous action began in the face, extended to the scalp and neck, and finally destroyed the patient by setting itself up in the throat. His observations upon the disease are very succinct, and add little to our knowledge of the subject. The perusal of Dr. Cheyne's article on Laryngitis in the Cyclopædia of Practical Medicine has left a strong impression upon my mind that, although he touches very lightly upon erysipelas of the fauces and air-passages, some of the other forms of inflammation of these parts, upon which he has dwelt at greater length, were in reality erysipelatous, or, at least, *erysipelatoid.* I think there is room for the belief that General Washington's case was an example of this disease.[†]

Having thus shown that the connection between erysipelas and an inflammation of the fauces and air-passages is no *new* "alliance,"—on the contrary, that it had been pointed out by the father of medicine himself two thousand years ago and upwards,—I take the reader back, or, more properly to speak, bring him on, to the contribution of Dr. Gull, with the mention of whose interesting paper on this relationship I opened this the closing subject of my essay. The cases he has adduced in illustration of the alliance are very striking, inasmuch as they exhibit it in its strongest point of view, —to wit, in that of an unbroken line of extension between the fauces and the face by the various passages which connect the two together.

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[*] Lectures on the Principles and Practice of Physic, vol. ii. p. 827.

[*] Ibid. vol. i. p. 827-8.

[†] Vol. iii. p. 17-18

"From the occurrence of these cases of cynanche with common erysipelas," observes Dr Gull,—"from the fact that we can often trace the continuity of inflammation from the fauces to the face, through one or several of the passages by which the mucous membrane is continuous with the skin,—from the connection of these with occasional glossitis and stomatitis, and from the œdematous condition of the mucous membrane accompanying these affections, I cannot but think they are natural alliances to one common condition."

The several cases recorded by this physician appear to have worn an adynamic aspect from the beginning, and were treated throughout with quinine, ammonia, wine, &c.

Dr. Gull then goes on to notice the disease (erysipelas) in its extension to the larynx, his observations in this part of the paper being full of interest and instruction; and he quite bears out the remark of Mr. Travers, already quoted, that we have here to do with an insidious and exceedingly fatal form of disease.

I cannot resist the citation of the following case illustrative of the last-named alliance:—

"A gentleman, whilst intoxicated, was thrown from his horse, and received a lacerated wound of both legs, and a simple, but severe fracture of one tibia into the knee-joint. Erysipelas of both legs followed, and incisions were required to evacuate the matter from the subcutaneous tissue. The patient was very low and exhausted, and erysipelas was still spreading up the thigh, *when he suddenly complained of extreme sore throat.* Only a general redness could be seen. In twenty four hours after this he died, the dysphagia being complete. On examination of the throat, a diffused redness was found to be spread over the pharynx and palate, and to enter into the laryngeal cavity: there was some, but not much, œdematous effusion into submucous tissue of pharynx and larynx."*

There is an inquiry of much practical interest in connection with the erysipelatous affection of these hidden parts, which, in importance, is scarcely inferior to the recognition itself of the specific form of the inflammation. It is this: Are these same parts prone to an *œdematous* condition unconnected with, and inconsequent upon, inflammation? and, is the "laryngitis œdematosa" of authors—of Porter, for example—a disease independent of erysipelas or the allied poisons?

In respect to the *first* of these two questions, I entertain no doubt myself that the submucous areolar tissue of the posterior fauces, of the larynx, and, indeed, of the whole respiratory track, may be the seat of *simple œdema*,—that is, of a mechanical escape of serum into the meshes of that membrane, and that, in proportion to the extent and situation of this, it is a condition of great danger, or the reverse. We see the external surface of the body in many situations exposed to this condition, and we meet with the same in the organs within as well; and although it might be objected that the venous circulation in the upper portions of the track in question is placed under circumstances differing from that which it holds in most other organs, it is, nevertheless, on other accounts strictly logical, in my opinion, to assert the application of the same laws of morbid action to the one as to the other. It is no infrequent occurrence to meet with the uvula distended with serum in which no prior stage of inflammation had existed. Why not, therefore, an extension of the same form of action, or rather of *inaction*, to the rima glottidis—the *janua vitæ*, as it might fairly be called—and, by a parity of reasoning, to the entire submucous tissue beyond? Mr. Lawrence records the case of a woman, thirty-five years of age, who died of suffocation, and in whom, after death, all the parts of the larynx possessed their *natural pale colour*, though they were "thickened and granulated on the surface so as completely to shut the rima glottidis. The affection, entirely confined to the parts just enumerated, occupied a very inconsiderable extent of the membrane; just enough, indeed, to close the entrance of the trachea."* But, I must content myself with this passing allusion to the first part of the question here adverted to, as neither my limits nor the exact nature of my subject permit me to diverge into its consideration at greater length.

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* MEDICAL GAZETTE, vol. viii. p. 1001, loc. cit.

The second clause of the question involved in the above inquiry—to wit, "*whether the laryngitis œdematosa of authors be a disease independent of erysipelas or the allied poisons*—will warrant, perhaps, a little closer examination at our hands. During convalescence from fevers of a low type, or during certain epidemic conditions of the atmosphere characterised by the prevalence of the exanthemata, and of putrid disorders in general,—also, after the exposure of the system to a prolonged course of mercury, as well as after its long subjection to the poison of syphilis,—a patient shall be suddenly seized with symptoms of laryngitis, the severity of which, *at first*, may by no means be commensurate with the gravity of their real import. The writings of Messrs. Ryland and Wood, as also of Dr. Budd,—from which I have so largely borrowed my illustrations in the preceding and present paper,—attest the ominous signification, as well as rapid course, of a laryngeal invasion under such circumstances as the foregoing. When death ensues upon these attacks,—which is almost always the case, unless anticipated by an *early* opening in the wind-pipe,—the mucous membrane of different parts of the larynx affords evidence of the inflammatory action, by *the phenomena of redness and often of lymph*, in addition to those of effusion of serum into the areolar tissue beneath. We have here, then, a class of cases *palpably differing* from those last alluded to, in which I have shown that the mucous membrane, if changed at all in colour, is preternaturally bloodless and pale, unmarked by the products of inflammation, and, where the only pathological change consists in an escape of serum into the tissue beneath, destroying the patient by a mechanical closure of the rima glottidis.

Where this form of laryngitis supervenes upon an accident or an operation,—as in the cases recorded by Mr. Wood and Dr. Gull,—and, still more palpably, when erysipelas shall be raging around, we have, I think, demonstrative evidence that the laryngeal attack results from a manifestation of that poison in the throat. *Why* it should select *this*, the most tragical site in the human body, for its fearful manifestation, we no more know than we do why, in rheumatic fever, the poison giving rise to that disease selects the endo- and pericardium for its operations. Doubtless, these are amongst the most inexplicable caprices in the history of acute disease; but, because we are not able to reason upon them, let us not be betrayed into the dangerous mistake of ignoring their importance. The cases last alluded to, I have said, are plainly erysipelatous in their nature: but, in respect to those ensuing upon the prevalence of *other* poisons in the atmosphere, and during a prostrate and damaged condition of the conservative powers of the system, in what light are we to regard *their* nature? Inasmuch as I believe that the body must necessarily be in an *unhealthy* state for their manifestation at all, there cannot, in my opinion, be a question that the symptoms in all such cases are due either to the introduction of a poison from without, or to its spontaneous origin in the impure fluids of the individual, his damaged health alone bespeaking such unhealthy condition of the humours. Having laboured throughout these papers to prove and maintain that the local inflammations arising in the course of disordered states of the body dependent upon morbid poisons are *ataxic*, and immediately associated with a depressed state of innervation and sanguification, and that, therefore, they will not bear, and cannot but be aggravated by, a lowering plan of treatment, I needly hardly here insist upon the extension of this principle to the particular disease now under notice.* And, although it might seem dogmatical to contend for the *truly erpsipelatous nature* of the morbid action in each and all of the instances wherein laryngitis follows upon the conditions of the system here particularized, I look upon it as so closely allied thereto as to justify the classification of all these cases within one common category, and the enrolling them under the common family title—*erysipelatoid.*

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* Medico-Chirurgical Transactions, vol. vi.

* I am surprised to find so recent and excellent a writer as Dr. Copland inculcating the principle, that our only chance of life in erysipelatous inflammat on of these parts is to be found in *active* measures at the outset

Mr. Porter, in his recent work on the larynx and trachea, has laid down what, if true, would at once offer a striking distinction between "erysipelatous" and "œdematous" laryngitis, no less as relating to their respective pathology than as influencing the line of treatment to be adopted in each; and this is, that whilst the former implicates the whole bronchial membrane in addition, the latter strictly limits itself to the larynx, and that, whilst one may be saved by tracheotomy, the fatal issue of the other will be precipitated thereby.

Alluding to the occurrence of erysipelas of the larynx in the Dublin Hospitals, during the winter of 1835-6, he says—"Amongst all these cases I have not heard of a single recovery; neither do I suppose such to be possible, considering the low and typhoid character of the accompanying fever" (p. 95). "The progress of the disease cannot be checked by any operation, and, instead of affording even temporary relief, its tendency must be to accelerate the fatal event" (p. 97). Mr. Porter is the only writer, as far as I know myself to the contrary, who discountenances tracheotomy for erysipelas of the larynx when performed in proper season; and I cannot but regret the insufficient grounds, not to say the *pseudo* reasoning, upon which he has formed his opinion. But I shall return to this consideration again when I come to speak of the disease in its relation to the bronchial tubes.

"The seat of this affection" (laryngitis œdematosa), says Mr. Porter, "is more in the cellular tissue connecting the mucous membrane to the adjacent parts than in the membrane itself, although this latter structure is very frequently found to have been inflamed" (p. 81).

"The exciting causes of this affection," he continues, "appear in nowise to differ from those of inflammation in general: chiefly they seem to be, exposure to damp, to cold, the passing from a warm temperature into the night air, and sudden variations of season." "And," adds this writer, "it is more common in men than in women; in large plethoric people who have led a sedentary life, and indulged in the pleasures of the table"—just the sort of cases, I may suggest, in which the erysipelatous poison would be like to be set up.

"It is also to be met with in connection with cynanche tonsillaris; but, most frequently, there is no appearance of coexistent inflammation in any surrounding structure. It is also, occasionally, very insidious in its approach; and I have two instances within my own recollection of young men who had retired to bed at night without complaining, and were found dead of this affection on the next morning" (p. 82).*

The final remark here introduced inclines me to believe, in support of what I have already suggested, that these last cases differ in nature altogether from the preceding; the former being erysipelatous and *active* in their character, the latter strictly "œdematous" and *passive*.

Mr. Lawrence thus speaks of this "œdematous laryngitis:"—"The patients died of suffocation; but the progress of the complaint was much slower than in those cases," (alluding to those described by Drs. Baillie and Farre, to which I have before myself adverted) "the symptoms were not acute, nor did the inspection of the parts disclose any evidence of active inflammation. The membrane covering the chordæ vocales was thickened, so as to close the glottis, and a similar thickening extended to a small distance from these parts, accompanied with an œdematous effusion into the cellular substance under the membrane. The epiglottis did not partake of the disorder. In one or two instances this thickened state of the membrane was the only change of structure involved."†

After stating that he had made the post-mortem examination in five such cases, Mr. Lawrence remarks upon them as follows:—"Although I am unacquainted with the details of the histories and symptoms of these cases, I know that they were not acute diseases, and there was no stage of active inflammation, and that the patients lived many days after the difficulty of breathing commenced. In two of them, a middle aged and a young female, the affection was clearly referrible to a mere cold caught by getting wet" (p. 238).

Morgagni had noticed this œdematous affection of the larynx, in which the mucous membrane after death was paler than natural, and the areolar tissue distended with serosity—"gelatinâ cellulas complente."[*] Bichat, too, remarks that the areolar tissue of the larynx is susceptible of serous infiltration, which may rapidly cause suffocation—Anatomie Descriptive.[†]

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* Observations on the Surgical Pathology of the Larynx and Trachea. By W. H. Porter.

† Medico-Chirurgical Trans., vol. vi. p. 232.

The pathology of this order of cases must be allowed to be very obscure; for, while in one instance we meet with corroborative evidence of inflammation of the superimposed mucous membrane, in another that tissue is paler[‡] than natural, one patient shall retire in apparently rude health to bed, and be found dead in the morning; another shall succumb after a struggle of many days' continuance, during which he shall have been able successfully to maintain the mastery against death, whose clutch all the while was heavy upon his throat.

After a patient, and, I may truly say, an anxious consideration of all the circumstances and phenomena surrounding this difficult inquiry, I am disposed to come to the following conclusions:—First, that there are two forms of œdema to which the larynx (and very probably the throat at large) is subject—an active and a passive.[*] That, in the one case (the latter), the symptoms have no relation whatever to an antecedent stage of inflammation, but are purely mechanical. In the other (the former), they are consequent on a previous excitement of the vessels of the part, and, if not erysipelatous in their origin, are closely allied to that specific form of inflammation. That the loss of blood in the first is demonstrably injurious, and cannot be shown to be beneficial in the other. Experience tending to confirm what we should have looked for in an *unhealthy* form of inflammation,—that the loss of blood directly aggravates the symptoms by still further impairing the tone of the vessels, and thereby favouring the escape of the watery part of their contents.

[To be continued.]

OBITUARY.

RICHARD PHILLIPS, ESQ., F.R.S.

On the 11th inst., at Camberwell, after a few days' illness, Richard Phillips, Esq., in the 73rd year of his age. The deceased had been long known as a scientific chemist, and for his researches and publications on Pharmaceutical Chemistry. He formerly lectured on Chemistry at Grainger's School in the Borough, and subsequently at St. Thomas's Hospital. For some years he has occupied the office of Curator of the Museum of Practical Geology, and has confined himself chiefly to that branch of scientific chemistry which refers to patent inventions — the arts, manufactures, &c. He was much respected by those who knew him.

A. G. C. THISELTON, ESQ.

On Thursday, the 8th inst., at the residence of his father, Heworth Cottage, near York, Alexander George Cockburn Thiselton, M.R.C.S., aged 27.

JAMES KENNEDY, ESQ. M.D.

At 24, Great Russell Street, Bedford Square, on the 9th inst., James Kennedy, Esq., M.D., of Woodhouse, in the county of Leicester, aged 70.

J. P. BUCKLAND, ESQ.

On Tuesday, the 13th instant, at his residence, Little Knightrider Street, Doctors' Commons, John Pelham Buckland, surgeon, aged 46.

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[*] Letters 4, 22, 44.

[†] Tome ii. p. 399. Vide, also, Andral, Precis d'Anatomie Pathologique, tome ii. p. 495.

[‡] A preternaturally pale state of the mucous membrane after inflammation has been noticed and commented upon by many eminent pathologists. Thus, Andral has the following remarks:—"Bayle says, this white state of the mucous membrane is not rare in chronic pulmonary catarrh. We should not, in our opinion, hence infer, that inflammation does not or did not exist. We found, in fact, this absence of redness in other organs where the existence of inflammation could not be doubted." "The intestinal mucous membrane, though traversed with numerous ulcerations, often presents a remarkable paleness either in the very place where the ulcerations exist, or in their intervals." And he records the case of a man who died at La Charité, of chronic bronchitis, in whom "the internal surface of the larynx, trachea, and bronchi, traced as far as their smaller divisions, presented everywhere great paleness."—Clinique Médicale, Diseases of Chest. Translated by Dr. Spillan. pp. 286-7.

Dr. Watson (article Bronchitis, Lectures on Practice of Physic) alludes to the *pale* state of the bronchia after "inveterate bronchitis;" and another excellent authority in our own country (speaking of an analogous structure), observes,—"Although the skin will not often continue permanently red without inflammation, I think it extremely possible it may be inflamed without being red; and, also, in cases of erysipelas, the integuments will be felt extremely sore and tender at a considerable distance beyond the redness, and such portion will, at a subsequent period, exhibit the same alteration in colour as the rest. It is, therefore, very possible that the phenomena of inflammation may be going on in the skin without the superficial network of vessels as yet exhibiting any undue distension."—Observations on the General Principles, and on the Particular Nature and Treatment, of various Species of Inflammation. By J. H. James. Pp. 428-9.

[*] Dr. Hodgkin, alluding to the infiltration of the submucous areolar tissue, remarks—"In some instances it appears to be unquestionably acute and inflammatory; of which, remarkable and fatal examples not unfrequently occur in the epiglottis and chordæ vocales. In other cases the infiltration is of a more passive character, and may, in general, be referred to some cause impeding the return of blood to the heart."—Lectures on the Morbid Anatomy of the Serous and Mucous Membranes, vol. ii. p. 40.

PATHOLOGICAL STUDIES ON THE BODIES OF THE DROWNED.

By Francis Ogston, M.D.
Aberdeen.

[Continued from p. 767].

Part II.

The appearances to be met with in the bodies of the drowned, and which are the more or less direct results of this mode of death, are of different kinds. It would not be very easy, however, to arrange and classify these in such a way as to be free from serious objections; some of these appearances being common to many of the usual forms of disease, while others of them are to be encountered in almost every case of death by asphyxia, or even by coma, however occasioned, and only a limited number of them are characteristic of this special mode of sudden death. Without, therefore, attempting to adhere to any nice distinctions amongst these phenomena, it may be better to follow the more obvious method of noticing them in the order in which they were studied, and proceed to consider—first, the appearances and particulars which presented themselves in the exterior of the bodies; and secondly, those which were observed in the post-mortem examinations: and

I. *Of the external appearances* in the cases submitted to observation.

1. *The position of the body.*—Without taking into account the slight degree of flexion of the limbs which is usually observable during the persistence of cadaveric rigidity in almost every corpse after death, the position which the subjects examined were noticed to present, when laid in the usual posture, on the back, was that of complete extension, except in 8 (8·8 per cent.) of them, in all of which the forearms were thrown forwards, and the wrists, the elbows, the hip, and the knee-joints, half bent, as if cadaveric spasms had come on at the time of death, and continued till the establishment of cadaveric rigidity. There was nothing in these last to connect the posture which the bodies had assumed with attempts at the resistance of violence during life: 3 of the parties, in fact, had committed suicide, and two of the others had perished from accidents. In one of the cases the flexion of the limbs was not present when first seen, five hours after death, although the joints were then rigid; but was very distinctly marked in the second visit, 6½ hours after. In 3 of the 8 cases this position was noticed at two different periods: thus making in all, 11 observations. In these the time after death had varied from 6 to 96 hours, with an average for each of 35 hours 24·5 minutes.

2. *State of the joints.*—In 54 (or 46·9 per cent.) of the observations the joints were in a rigid state. The average period after death at which the general rigidity of the joints was observed in 40 of the cases,—in which the time of death was ascertained,—was 39 hours 26·5 minutes, with a range of betwixt 1½ hours and 10 days. In such of the cases as belonged to the six winter months, the periods after death averaged 65 hours 19 minutes, with a range of between 8 hours and 10 days; while in those of them which belonged to the six summer months, the periods after death averaged 14 hours 34 minutes, with a range of between 1½ and 35 hours.

3. *Position of the fingers and thumbs.*—In 51 (or 56·6 per cent.) of the cases the fingers, and in 33 (or 36·6 per cent.) of them the thumbs, were more or less fully bent: in 9 of these last the thumbs were drawn in to the palms.

4. *State of the nails.*—The nails of the fingers were more or less livid in 24 (or 21·4 per cent.) of the observations. In a few of the remainder the prolonged stay of the bodies in water had given them a blanched appearance. No foreign matters were noticed under the nails in any of the observations.

5. *Expression of the countenance.*—In 36 of the observations the expression of the features was obliterated, on account of the tumefaction of the face to a greater or less extent. In 74 (or 93·6 per cent.) of them the features were placid, giving an expression of repose to the face. In the remaining 5 observations the countenance had an anxious cast: of these last, one was the body of a blind woman, and a second that of a person who had been near-sighted, and who had perished by accident.

The bodies in which the anxious cast of countenance was noticed had been dead from 30 minutes to 18 hours, or, on an average, 7 hours 52·5 minutes: in 3 of them cadaveric rigidity of the joints had come on.

6. *State of the eyelids and of the pupils*—In 82 of the cases the eyelids were closed; in 4 of them they were half open, in 3 they were widely opened; and in the remaining instance the eyelids on one side were open, those of the other closed.

The state of the pupils was natural in 41 of the observations; in 73 of them (63·4 per cent. of the whole) the pupils were decidedly dilated; in the remaining observations the pupils were in a state of contraction.

The dilated pupil is more frequently met with shortly after death than at a later period: thus in 13 of the bodies, which were twice seen, the pupils were dilated at the first visit, but had passed into their natural state before the subsequent visit—a circumstance which occurs likewise in cases of death by coma. Widely dilated pupil was only encountered in 15 of the above observations of dilated pupil. The average period after death of widely dilated pupil was 8 hours 78·4 minutes, with a range between 19 minutes and 35½ hours.

7. *State of the mouth and lips.*—The mouth was shut in 72 of the cases, and more or less open in the remaining 81, or 20 per cent. of the whole. In 2 of these last the fall of the lower jaw was owing to flaccidity of the muscles, and had come on between the first and second visit. In 2 others decomposition was far advanced, and the muscles very flabby.

In 8 of the observations the lips were swollen, in 1 they were wide apart, exposing the front teeth, in 1 they were protruded forwards, and in 1 they were retracted.

8. *Position of the tongue.*—In 20 of the cases the tip of the tongue was in contact with the front teeth, which had left their impressions on it in 4 of these instances. In 4 cases the tongue was retracted. In 15 cases its tip was protruded beyond the incisor teeth, which were closed on it in 12 of these. In no instance was the tip of the tongue projected beyond the lips.

9. *State of the face.*—In 41 of the observations the face was more or less tumid, from the slight but distinct puffiness occasionally noticed in bodies recently dead from various causes, up to the enormous degree of tumefaction resulting from advanced decomposition. In 5 of the observations the tumefaction was so slight as not to have obliterated the expression of the countenance.

10. *State of the neck and chest.*—In 18 of the observations the neck was observed to be considerably swollen. In 9 of these the tumefaction had occurred prior to the appearance of decomposition; and at periods after death varying from 4 or 5 minutes to 12 hours, and varying for each 5 hours 37 minutes.

Tumefaction of the upper and forepart of the chest was encountered in 3 of the cases; in one 10 hours, and in another 56 days after death.

11. *State of the penis.*—In 3 (4·2 per cent.) of the males the penis was in the state of complete erection, and in 2 others of them it was in that of semi-erection. The bodes of the 3 former had been in the water respectively 7 hours, 24 hours, and 24 days. In this last instance the erection was evidently owing to the evolution of fetid gases into the part. In the others it had undoubtedly had a vital origin.

12. *Cutis anserina.*—This peculiar appearance of the surface was present in 21 (23·3 per cent.) of the cases. In 1 of these it was general over the body. In all of them it occupied larger or smaller portions of either the upper or lower extremities, or both. In 11 of the cases its seat was on parts of the trunk. It was encountered at all the seasons of the year; 3 times in the 3 summer months, 9 times in the 6 summer months, and 12 times in the 6 winter months. One of the bodies had been 24, and two of them 26 days in the water

13. *Colour of the general surface.*—Immediately after death by drowning the whole surface of the body becomes pale; a remark which might be extended to almost every form of sudden death, whether by asphyxia or otherwise. The pallor of the drowned appears to continue for some hours, as in 22 out of 28 cases in which this state of the surface was noticed the stay in water had varied from 5 minutes to 25 hours, with an average of 4 hours 12 minutes for each.

A similar state of the general surface may be met with at later periods, where the body has remained in water. Thus in 3 others of the above 28 cases the bodies had been submerged for periods of 7, 29, and 35 days respectively.

Between these two periods the cutaneous surface assumes various shades of colour, in which, however, red is seen to predominate; the production of which is owing to different circumstances. Thus one set of these appearances is evidently dependent on the action of oxygen on the blood in the superficial capillaries; a second set require in addition a congested state of the subcutaneous veins; while a third set originate in the escape of the blood into the areolar tissue, from the advance of putrefaction. To the first of these belong those patches of diffuse and superficial redness involving only the true skin, which appear on various parts of the surface after some stay in water, and which may or may not subsequently give place to ordinary lividity.

In 14 cases in which this diffused redness was noticed, its seat was the dependent parts of the trunk in 7, and of the extremities in 3; while it occupied the upper parts of the arms in 2, the face in 6, the front of the neck in 2, and the foreparts of the thighs in 2. It was met with in 2 cases in the spring months, in 4 in the autumn months, and in 8 in the winter months. The average stay in water of 10 of the bodies had been 23 hours 50 minutes, and had varied from half an hour to three days.

The second set of appearances referred to are those to which the term *cadaveric lividities* would be most properly applied. In all, the discolouration was evidently owing to the amount of blood in the subcutaneous veins, and in none of them had putrefaction shown itself in the fluids or tissues. Discolourations of this sort were encountered in 36 of the bodies at the time of their removal from the water. In 6 others, the lividities appeared only several hours subsequently to their being exposed to the atmosphere. Exclusive of these last, and of discolourations of the lips in 43 cases, and of the nails in 24 cases, lividities were met with to the number of 108; in all, of the kind we are considering. Of these, 79 had their seats on dependent, and 29 on non-dependent parts. To the former belonged 26 lividities of the posterior aspect of the trunk, 31 of the back of the head and sides of the face, 13 of the sides and back of the neck, and 9 of the dependent parts of the extremities: to the latter belonged 13 lividities of the fore parts of the head and face, 1 of the front of the neck, 7 of the fore-parts of the upper extremities, and 9 of the front of the chest.

The season of the year appears to influence the occurrence of these lividities. Thus, in 10 of the cases in summer, the time of their appearance had varied from half an hour to 12 hours, with an average of 3 hours 16 minutes; while in 8 cases in winter it was found that this had varied from 6 to 288 hours, with an average of 52½ hours. With this the intermediate seasons pretty nearly corresponded. Thus, 7 spring cases, with a range of between 3½ and 20 hours, presented an average of 11 hours 25 minutes; while in 9 autumnal cases, with a range between 1 and 72 hours, the average period of the appearance of the lividities was 15 hours 16 minutes.

The third set of discolourations, dependent on the advance of putrefaction, have been already noticed.

14. *State of the palms, soles, &c.*—The blanched and wrinkled state of the palms of the hands, soles of the feet, and other parts of the surface of the body, after death by drowning, being occasioned solely by the action of the water in which the bodies have lain, should properly have been noticed in the previous part; but, from its special bearing on this mode of death, it has been thought best to reserve its consideration for this place. These appearances are favoured, though not to any great extent, by the parts being covered with clothes at the time; and, in these circumstances, they may only commence after the withdrawal of the body from the water.

The blanching and wrinkling of the soles was observed in 46 (or 52·2 per cent.) of the cases, and of the palms in 44 (or 48·8 per cent.) of them. In 23 of the cases, besides being present on the palms, the blanching had also extended to the whole of the hands as far as the wrists; and, in the same number of the cases (23), it had extended beyond the soles to the whole of the feet as far as the ankles. In 7 of the individuals the fronts of the knees, and in 3 of them the prominences of the elbows, were likewise blanched and wrinkled; while, in 1 other, this state of the surface was general over the whole of both the upper and lower extremities.

This last body had been 56 days in water. In 4 of the 7 cases of blanching of the knees the bodies had been from 8 to 21 days in water, or, on average, 12·25 days each. In 2 of the 3 instances in which the elbows were blanched, the time in water had ranged from 8 to 21 days, or, on an average, 14 days. In 18 of the 23 cases in which the blanching had extended to the wrists and ankles, the stay in water had been from 25 hours to 35 days, or, on an average, 14 days 11 hours.

In 12 of the cases in which the blanching was limited to the palms and soles, the stay in water ranged from 30 minutes to 46 hours, and averaged 15 hours 50 minutes.

No blanching of the palms, soles, or other parts of the surface, was noticeable in 44 (or 48·8 per cent.) of the bodies. Of these, 38 were known to have been from 4 or 5 minutes to 20 hours in water, or, on an average, 6 hours 39 minutes. One other was believed, on tolerably good evidence, to have been 45 hours submerged. In 2 more of the bodies the absence of blanching was coincident with advanced putrefaction, and each had been 29 days in water.

15. *Foreign matters on the surface.*—The absence of these from the nails has been already noticed. In 2 cases the hollows of both hands were full of mud, which seemed, however, to have settled there mechanically in the course of a long stay in water, though the exact period was not known in either instance. Sand or mud had settled on the exposed parts of the surfaces of 10 of the bodies, 8 of which were ascertained to have been from 4½ to 48 hours in water, or, on an average, 17 hours 28 minutes each. The same substances had settled on the unexposed parts of the bodies—*i. e.*, on the interior of the clothing—of 9 of the individuals, 7 of whom were known to have been in water from 12 to 50 days, or, on an average, 30 days each. In 2 instances, where the mouths were found full of mud, the stay in water had been in one 10, and in the other 24 days.

[To be continued.]

POISONOUS EFFECTS OF PEACH-KERNELS.

BY DR. KEATING.

DR. K. states that he was sent for in great haste to visit a little girl, aged three years, who had come in from playing with an elder brother, and suddenly placing her hand on her head, fell on the floor perfectly senseless.

When I saw the child, she was lying on the bed insensible; respiration slow, deep, and sobbing; no convulsion of the limbs, but a faint, flickering motion was observable about the muscles of the lips; hands and feet were icy cold; eyes prominent, pupils dilated; pulse slow and feeble; finger nails of a livid colour, and the hands slightly clenched. My inquiries elicited nothing from the mother which could account for the extraordinary condition of the child. Despairing of obtaining any clue to the case, and as a dernier resort, I applied my face to the child's mouth, and immediately recognised in her breath a strong odour of prussic acid. The idea of peach-kernels immediately suggested itself to my mind; and, upon interrogating her brother, I found that, previous to her coming into the house, she had managed to snatch from him a large quantity of peach-kernels which he had been preparing for his mother's use. He also informed me that he saw her put a large quantity in her mouth at a time. Convinced, then, that I had to deal with a case of poisoning by prussic acid, I immediately had recourse to the proper treatment. I dashed a small pailful of water upon the child's head and spine, and in a few moments had the satisfaction of seeing her take a full respiration, and evince some signs of returning consciousness. I immediately administered an emetic, consisting of five grains ot sulphate of zinc and ten of powdered ipecac.; this was followed by copious emesis, consisting of a large quantity of peach-kernels, emitting all the peculiar fragrance characteristic of prussic acid. Sinapisms were also applied to the spine and to the extremities, and after the vomiting had ceased, I ordered thirty drops of the aromatic spirits of ammonia in water, to be repeated every half hour. The child appearing much relieved, and consciousness having entirely returned, I left the house.

Upon visiting my little patient two hours after, and finding that the pulse was full and rapid, face flushed, conjunctiva injected, and that she was complaining of violent pain in the head, I took about three ounces of blood from the arm, and ordered cold applications to the head and an enema for the bowels. When I returned again in the evening, all untoward symptoms had vanished, and the child was playing about, and apparently as well as ever.

Upon testing the contents of the stomach with the liquor potassæ and a solution of the sulphate of iron, the Prussian blue was instantly precipitated in abundance. From the condition in which I found the child, I have every reason to believe that had not the proper remedies been promptly applied life would have soon become extinct.—*Amer. Jour. Med. Sci.* Jan. 1851.

MEDICAL GAZETTE.

FRIDAY, MAY 16, 1851.

We have great pleasure in seconding the views of the Epidemiological Society by directing the attention of our readers to the various interesting questions on Vaccination and Small-pox, on which the Society is desirous of procuring accurate information.* Some attempt has lately been made to shake the confidence of the profession in the protective power of vaccination; but we believe that this confidence is too well founded in experience and observation to allow of any success following such an attempt. Some may have been too sanguine, and others too distrustful of the influence of Jenner's great discovery. The only method of arriving at the truth is by procuring such returns as those now moved for by the Epidemiological Society; and we think there is no practitioner who feels an interest in the progress of medical science, who will not cheerfully devote half an hour to answering, according to the best of his ability, the various questions which have been framed for this purpose.

The last question of the series (No. 18) is especially deserving of attention, as it seeks to procure a knowledge of the influence of vaccination on the persons of the reporters themselves.

It is with regret that we feel called upon to notice publicly the subject to which the annexed resolution refers:—

"At a meeting of the Wakefield Medical Society, held on the 7th of May, 1851, Mr. Henry Horsfall in the chair, a letter was read which Mr. Thornton, of Horbury, had addressed to several of the clubs in that neighbourhood, and the following resolution, moved by Mr. Slatter, and seconded by Dr. Holdsworth, was passed unanimously:—

"Resolved,—That this Meeting regrets that any medical man should degrade the Profession to which he belongs by issuing such a document as the letter now read; and that a copy of this resolution, and of the letter to which it refers, be forwarded by the Secretary to the Lancet, and to the Medical Gazette.

(*Copy.*)

"'I hereby offer to attend the Members of your Lodge at the rate of Two Shillings and Sixpence each per year, including sickness, and all accidents, except those demanding operations, which require the assistance of another medical man; and in the latter I will not make any charge for my own time and trouble.

"'I also wish it to be distinctly understood that I shall not allow a lower offer than my own to prevent me becoming the medical officer to your Lodge; but, on the contrary, should you receive any offers to attend the Members at less than I have stated, I will take them at Sixpence per Member less than any offer you may receive.

"'William Henry Thornton,
"'M.B., Lond.;
"'M.R.C.S., Eng.; and L.S.A.'"
"'Horbury, April 12, 1851.'"

Although it comes to us from a respectable source, we hope that the circular to which Mr. Thornton's name is attached may turn out to be a forgery. It is incredible that a Bachelor of Medicine of the University of London, and a Member of the Royal College of Surgeons of England, should resort to such a method of procuring practice! Medico-ethical Societies are working to little purpose, when conduct like this can pass without exposing the offending member to more than the temporary censure of a few local practitioners. In the law, a barrister or solicitor who thus ventured to wedge himself into practice would be at once cut off from all professional society, and disbarred or struck off the rolls. In medicine, however, there is no tribunal before which delinquent members can be arraigned. With some persons it is a matter of grievous complaint that medical men of high standing meet homœopaths and hydropaths in consultation; but we ask—are they such enemies to their profession as men who offer to attend on Clubs or Lodges for any paltry sum fixed by such a degrading system of competition as this? How can complaints be justly made against Boards of Guardians, and the public in general, for a want of liberality in dealing with medical practitioners, when we meet with such glaring instances of illiberality among themselves as this provincial circular displays? We commend these facts to the notice of gentlemen who, during the summer, may be engaged in working up eloquent and pathetic passages for their "October introductories." In general, an Arcadian picture of the profession is presented to the novice: its honour and dignity—the high and responsible mission of its members—are set forth in glowing terms; and the whole surrounded by a halo of science which is sufficient to captivate the mind of a beginner at the bare prospect of becoming a member of such a noble, disinterested, and scientific profession as that of medicine! Surely the actual as well as the theoretical state of medical practice is deserving of notice. The man who obtains a diploma, and endeavours to make a practice, must now sink to the level of Penny clubs—accept a Poor-law union on terms which allow him to keep a horse and starve his family—or, finally, be driven out of a district by some professional brother who will undertake a case at *sixpence* per annum less than himself, however low the tender may be!

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* See p. 868.

Such are the results of free trade in the profession. Over-crowding and excessive competition lead to acts which every honest member of society must condemn.

Reviews.

Traité Pratique de la Colique de Plomb. Par J. L. Brachet, Chevalier de la Legion-d'Honneur, Professor of General Pathology in the Medical School of Lyons, &c., &c., &c. 8vo. pp. 295. Paris. 1850.

A Practical Treatise on Lead-Colic. By J. L. Brachet, &c.

The name of Brachet is known to English readers as that of the author of a work on the pathology of the Nervous System*, which met with a favourable reception, both here and on the Continent, and established the author's reputation as a scientific physician and physiologist. We have now another work from the pen of the same writer, on a subject to which he informs us that he has given his attention since his first entry upon the practice of Medicine, having by his position, at that time, of Physician to the Tin-workers of Paris, had the most extensive opportunities of observing the disease among a class of men who, next to the workers in white-lead, afford the largest number of cases of Lead-colic. M. Brachet's views on this disease were first made known through the pages of the "*Journal Général de Medecine*," in 1824. In the year 1846, the Academy of Sciences of Toulouse selected this as the subject for its prize. M. Brachet has embodied the results of all his previous researches in the present treatise, to which this prize was awarded.

Having thus given the history of the work, we now present a brief analysis of its contents.

The objects defined by the Academy of Toulouse were;—*the actual state of science* with regard to the nature and true seat of lead-colic, the signs by which it is distinguished from other abdominal affections with which it presents resemblances; and lastly, the indications of treatment.

The author prefaces his observations by an historical sketch, from before the time of Hippocrates, to the date of the present publication. In the next place he proceeds to the consideration of his subject, under the three divisions indicated by the Academy,—viz., 1. Nature and seat of the disease, 2. diagnosis, 3. treatment.

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* Recherches Experimentales sur les Fonctions du Système Nerveux ganglionaire. Par J. L. Brachet. Paris. 1837.

1. *On its nature and seat.*—Under this head M. Brachet first gives a *resumé*, or historical sketch, of all the opinions which have been advanced at various times on the true nature of the malady, with the records of post-mortem examinations made by preceding pathologists. From these the author concludes, that neither pathological anatomy, nor chemical analysis, has solved the question of the seat and nature of lead-colic. The only method of research which remains, M. Brachet observes, is physiological analysis, by which the author implies, lesions of function regarded as certain indications of lesions of organs. This method, however, M. Brachet remarks, must be combined with pathological anatomy, and every other mode of investigation, each lending assistance to the other.

From the facts and considerations which the author thus brings to his subject, the conclusion is arrived at, that the direct action of the molecules of lead is not the direct cause of colic, while it is necessary that the metal be absorbed, although, by what surface, or in what manner, is not matter of much importance, as it does not influence the nature of the malady.

With reference to the state of the metal which is necessary to its absorption, the author observes that this point is undetermined. On another important point, however, in reference to the salts of lead, which are sometimes considered to be incapable of absorption by reason of their insolubility; M. Brachet observes:—

> "I fear that this preconceived theory will not sanction the hopes that have been founded upon it. Insoluble as they are, these bodies may be absorbed when minutely divided; insoluble as they are they are capable of acting upon our tissues: it is a great error to compare these with inorganic, inert bodies. . . . . Thus the insoluble salts of lead, inert as regards ordinary physical and chemical properties, cannot exist in our living tissues. Who knows, however, what are the actions thereon of these vital tissues? Who knows precisely the chemical influences which these salts may there undergo? How many chemical processes are there performed, beyond the ordinary laws of chemistry! How many bodies are there destroyed, how many are there formed, which ordinary chemistry neither forms nor destroys!" (p. 94).

These observations by M. Brachet are deserving of attention at this time, when a process for the purification, by salts of lead, of an universal article of diet is advocated on the ground that the salt produced is *insoluble!* It is known by direct experiment that the salts thus asserted to be insoluble *are not so, as regards all the fluids to which they may be exposed in the animal economy.* The sugar thus prepared will not only be purified, but will be adulterated by an agent, of perhaps slow, but certainly deleterious properties!

M. Brachet, as the result of his inquiries into the nature and seat of the disease, defines lead-colic to be a special cerebro-ganglionar-neurosis, produced by lead, and manifested in the organs of digestion.

2. The second division of the subject comprises its diagnosis. The author first accurately describes the symptoms, and then compares these with those of the diseases with which it is liable to be confounded,—*i. e.*, Enteritis, Cholera, Peritonitis, Enteralgia, Ileus, Hepatic colic, Calculous nephralgia, and other colics.

3. The third section lays down the indications of treatment, and the rational medicines by which these are to be fulfilled. The former are to relieve pain, to allay spasm, to remove constipation, and to promote elimination of the poison. In seeking the fulfilment of these indications, M. Brachet passes in review the different modes of treatment which have been proposed.

The author adopts an eclectic, or mixed treatment by sedatives and purgatives, followed by the administration of alum. The latter, in combination with opium, is regarded by him as a peculiarly valuable remedy in this form of colic, purgatives being also administered, in order to restore the functions of the intestines. The author concludes with the treatment of complications, of convalescence, and of relapse; adding also a section on prophylaxis.

We have thus exhibited the claims of this treatise to be regarded as a truly scientific contribution to pathology.

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1. *Remarks on the Operation of the Perineal Section for the Cure of Stricture of the Urethra and Fistula in Perineo.* By F. G. W. Mullar, M.D.L.C.R.S.E. Pamphlet, pp. 16. Edinb.: Seton. 1850.
2. *Practical Observations on the Treat-*

ment of Stricture of the Urethra, and Fistula in Perineo, illustrated with Cases and Drawings of these Affections; with an Appendix, containing various Letters, Papers, &c., by Prof. Syme, Dr. Mullar, and the Author, connected with the Operation of the Perineal Section. By JOHN LIZARS, late Professor of Surgery to the Royal College of Surgeons, and Senior Operating Surgeon to the Royal Infirmary of Edinburgh. 8vo. pp. 87. London: Highley. Edinb.: Lizars. 1851

1. THE operation for the cure of stricture by perineal section, which has been proposed by Mr. Syme, and which we have already brought under our readers' notice, has become the subject of a rather sharp controversy. In noticing Mr. Syme's proposal we used these words:—"Mr. Syme's reputation is a guarantee that this shall not be a mere speculative novelty; and accordingly he states his views as the result of experience." Dr. Mullar's remarks, however, in the pamphlet before us are to the effect that Mr. Syme's operation is not one that is based on experience; and, that its safety and success are not so great as alleged by him. Dr. Mullar remarks: "As Mr. Syme did not, in his work on Stricture of the Urethra, inform the profession that his operation is liable to fail in curing this disease, other persons who have had the opportunities of knowing the ultimate result of such cases are in duty bound to give publicity to them. "In the performance of this duty Dr. Mullar relates several cases in which not only has the operation failed to cure, but has been followed by serious consequences. These cases, with the accompanying remarks, certainly deprive the operation of the characters of simplicity, safety, and certainty, which Mr. Syme has bestowed thereon. Dr. Mullar points out that the operation itself is little less formidable than that of lithotomy, and that it is one which, in Mr. Syme's words, requires the "*nicest manipulation*," inasmuch as, Dr. Mullar observes, the very part that constitutes one of the great dangers of lithotomy, the artery of the bulb, is much more exposed to danger in the proposed operation than in that for stone. Cases are mentioned in which profuse hæmorrhage has taken place, and with reference to which, the author asks, "whence comes the hæmorrhage of which these patients complained so much?"

Dr. Mullar discusses the nature of the disease in which Mr. Syme's operation is advisable, and states his doubts whether Mr. Syme truly succeeds in passing through the stricture. the instrument, "a solid wire of such thin dimensions, as to acquire the name of *knitting needle*," or whether he does not thereby make a false passage. It is undoubtedly a question of grave importance to be determined, whether this instrument enters the bladder without having deviated from the natural canal. Dr. Mullar's answer is "undoubtedly No!—he cannot prove anything of the kind." It is only a fair condition which is put by Dr. Mullar in reference to the determination of the permeability or impermeability of the stricture, that it be ascertained by the careful use of a well-finished sterling silver catheter. A solid wire of the small size spoken of may assuredly make a false passage without producing more pain or loss of blood than a No. 1 catheter.

Dr. Mullar appends a tabular analysis of sixteen* cases published by Mr. Syme, and from which analysis it is made to appear that the results have been far from so successful as claimed for them by the operator: thus, "what do these sixteen cases teach us? That 4 of their number were cured; 6 are doubtful; 2, the most unpromising, were cured in one month by dilatation; and 4 are wholly unfit for the active duties of life."

Under this aspect of the discussion, as here stated by Dr. Mullar, it remains only to add that something more than the "guarantee" of "Mr. Syme's reputation is wanting to assure the surgeon that he would be justified in having recourse to the proposed operation for the cure of stricture of the urethra.

We would add a quotation from the observations of Mr. B. Phillips, with reference to another operation, the success of which has been much vaunted; "he condemned the practice of publishing *successful* and withholding *unsuccessful* cases He considered it to be a suppression of the truth which every honest man would condemn." It is much to be lamented that zealous and active practitioners of surgery or medicine should permit their partiality for their own proposals or views so to warp their judgment, or obscure their memories, that, instead of promoting, they greatly retard the progress of medical and surgical science.

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* One of the cases is not in Mr. Syme's book, but is taken from the Monthly Journ. Nov. 1850.

2. A fierce paper war has arisen between the two Edinburgh Professors, Syme and Lizars, from the fact that Mr. Lizars is not prepared to admit at once the value of Mr. Syme's proposal to cure stricture of the urethra by incision in the perineum. Mr. Lizars has watched the result of the cases operated upon, and has arrived at the following conclusions:—1st. That the division of a stricture, by external incision, does not completely remedy the disease in its inveterate and obstinate form. 2nd, That division, in cases of less obstinacy, is not preferable to dilatation, as affording relief more permanently or more safely. That, on the contrary, the operation of the perineal section is a total failure, and a surgical blunder. 3rd. That stricture may be cured by the careful and persevering use of the silver catheter only, in as short a time, more certainly, and more safely, than by the perineal section. Such are the general conclusions which we deduce from a perusal of Mr. Lizars' work, which contains also a very accurate description of the causes, nature, varieties, symptoms, and treatment of stricture: the author's observations with reference to the last-named point being particularly valuable.

These conclusions, the opposite treatment advised, and the condemnation of his novel proposal, have excited the ire of Mr. Syme; and hence the angry correspondence which constitutes a large portion of the publication before us, and which constitutes the statements of both parties. As we have noticed the unsuccessful results of the perineal section, in our remarks on Dr. Mullar's pamphlet, we shall now no further allude to them than to state that the reader will find Dr. Mullar's paper also bound up with Mr. Lizars' observations.

Mr. Lizars' "observations" constitute a most useful contribution to practical surgery; the plates with which they are accompanied most fully illustrate the points of practice enforced in the text; and as we believe that the work will have an extensive circulation, we may hope to see the second edition published without the appendix of forty-three out of eighty-seven pages, consisting entirely of controversial matter.

Time will be an impartial umpire:—if Mr. Syme's proposal be as valuable as he asserts it to be, Mr. Lizars, Dr. Mullar, and others, will not meet with repetitions of the unfortunate consequences attendant thereon, which they have now brought before the profession, and which we confess must be disproved, or satisfactorily explained, before we should venture to adopt the new operation suggested by Mr. Syme.

General Index of the First Thirty-three Volumes of the Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. 8vo. pp. 336. London: Longmans. 1851.

We find the following note standing in the usual place of a preface:—

> **"The Council of the Royal Medical and Chirurgical Society of London cannot allow the Index of the Transactions of the Society, constructed by their Librarian, John Hennen, M.D., to be published without expressing the strong sense they entertain of the services thereby rendered to the Society by him. They are convinced that the Fellows will feel that the value of the Society's Transactions will be greatly enhanced by the publication of this very elaborate work."**

We would add, that not only the Fellows of the Royal Medical and Chirurgical Society should feel themselves indebted to Dr. Hennen for this volume, but directly all who cultivate the literature of their profession, and indirectly every individual member thereof, as all must derive benefit from the facility of access thus afforded to the invaluable stores of information contained in the Transactions of this Society.

Some idea of the worth of these records, and of the utility of the work before us, may be gathered from the first division of the volume, which gives the list of contributors. The enumeration of a few names of the depart d lights of medical and surgical science which it contains will afford the means of estimating its value. First in alphabetical order, and also not last in real merit, is that of John Abernethy: we meet with also the names of Babington, Bateman, Bell, Berzelius, Blane, Bostock, Burton, Cooper, Earle, Jenner, Key, Marcet, Prout, Tyrrell, Yelloly, with a host of other deceased and living members, of the highest eminence and world-wide reputations.

The second division of the work contains the "tables of contents" of each volume, and of a list of the engravings, woodcuts, &c., contained in the first thirty-three volumes.

The third division, which is indeed the *opus magnum* of the volume, comprises an alphabetical list of the names of the subjects, and of the authors of the contributions to be found in the Transactions. Under each name of a subject is to be found a reference to each case or paper on that subject which may be found in the volumes of Transactions; and under each name is to be found an enumeration of the several papers or cases contributed by their respective owners.

The execution of his task reflects lasting credit on the judgment and industry of Dr. Hennen. We are quite sure that the Fellows of the Society, and the profession generally, will not be backward to acknowledge the obligation thus conferred by Dr. Hennen.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

April 15, 1851.

MR. GAY exhibited a specimen of

Cancer of the Uterus,

producing obstruction of the bowels, in a woman, æt. 52. When brought to the Royal Free Hospital, she had had no free evacuation of the bowels for several weeks, and not any for twelve days: the abdomen was much distended, tense and tympanitic generally; severe torminous pains at intervals were felt, principally below the umbilicus. Countenance anxious; pulse quick; vomiting, which had continued for the last twelve days, was increased, but not stercoraceous; there was fulness on both sides in the lumbar region, but the left was most resonant, especially along the course of the descending colon.

The uterus was much enlarged, firmly fixed, and very hard: an instrument passed up the rectum as far as the os uteri, above which nothing could be made to pass, on account of pressure on the intestine by the uterus.

The symptoms led Mr. Gay to perform Amussat's operation as a dernier resort. After dividing the deep layer of the transversalis fascia, a large quantity of fat was exposed: this was turned aside, and the bowel was hooked up on the finger; it was found to contain nothing but hard scybala: at this stage of the operation a very small tube was passed through the rectum, and a quantity of water injected: the fluid was found to ascend into the exposed colon, but on the withdrawal of the tube it remained.

It was then decided to open the colon: as soon as the opening was made, the fluid discharged itself freely, and several lumps of very hard scybala, in the immediate neighbourhood of the opening, were removed: the patient went on well during the night, and died suddenly in the morning.

On examination, the small intestines, to within eight inches of their termination, were distended with fluid fæcal matter. At this part, to its termination, the ilium was firmly adherent to the fundus of the diseased uterus, and contracted to such a size as barely to admit a goose-quill. Through this portion of bowel the fluid contents of the intestine above could not pass to the cæcum, and the colon contained masses of scybalous matter, which had evidently been a long time accumulating, for they had become so hard as well nigh to deserve the name of concretions. The rectum was traced to the promontory of the sacrum, and from this point it passed behind the uterus, and was pressed by it so tightly against the posterior wall that the finger could not be passed into it. It was found closely adherent to the uterus, and much narrowed. The uterus much enlarged, and in a state of scirrhous degeneration, with ulceration of the os. It was so large as almost entirely to fill the pelvis. The posterior wall of the bladder was closely adherent to it, and had become implicated in the cancerous disease.

The interest of the case arises from there being two seats of obstruction; whilst the symptoms referred especially to but one—viz., that from the cancerous uterus. The usual symptoms which mark obstruction in the ilium, such as fæcal vomiting and partial resonance on percussion, were absent. In cases of obstruction it is to be remarked that, though fluids may be injected beyond the seat or cause of obstruction, it is no guarantee that fluids may be evacuated by the ordinary muscular motion. Fatal obstruction may exist, and yet fluids may be made to pass beyond them.

It is to be remembered that, for the most part in these cases, the contents of the large bowel are hard, and not of a fluid or semi-fluid consistence, so that a very limited narrowing of the rectum by disease is sufficient to cause fatal obstruction. In such cases it is evidently mal-practice to inject the bowels.

Mr. OBRE exhibited a specimen of

Diseased Intestine, following its Strangulation eleven months previously.

A female, aged thirty-four years, suffered from strangulated direct inguinal hernia on the right side, which Mr. Obre relieved by operation on May 3d, 1850, the third day of its strangulation; a portion of the small intestine, intensely purple, was found in an unusally thickened sac. After it was returned, the sac was doubled on itself, and put into the ring, with a view of permanently closing the opening, which had the desired effect, the patient not requiring the use of a truss. In December, she began to suffer from flatulency and pain after food, which obliged her to use only fluid diet. The intestines were tympanitic in the extreme, and there was pain in the region of the stomach, with occasional vomiting.

These symptoms continued till February, when, under the use of morphia and creosote, she appeared convalescent. On February 27, soon after the bowels acted, abdominal pain came on, with fæculent vomiting, and continued some three days without the bowels acting, when, almost in a dying state, a large fæculent evacuation passed, and the vomiting ceased, but the abdomen continued enormously distended with flatus.

March 10th.—The symptoms again returned, and continued some days: although relieved a second time, the stomach could not receive any food; the bowels acted daily by the use of injections, but the abbomen gradually increased, also the pain over the region of the stomach. She died on the 29th April.

Examination.—The abdomen was enormously distended; the small intestines were distended to their greatest extreme, filling the cavity, and passing in a perpendicular direction from the upper part of the epigastric and hypochondriac regions into the pelvis, lying anterior to the other viscera. The intestines were generally pale, but at parts vascular, and studded with a few dark points of gangrene. One had given way, and emptied some of the contents of the bowel; a contraction was found about a foot above the cæcum, formed by the portion which had formerly been relieved by the operation: this part had taken on an inflammatory action, and deposited fibrine between its coats, so as only to allow water to drip through the contracted tube: an accumulation of soft fæculent matter gorged the small intestines, from a few inches below the duodenum to the diseased structure, distending it to the extent of 8¾ inches; its coat had become preternaturally thickened; all the intestine below the stricture was contracted to 3½ inches: the diseased and strictured part, that had formerly been protruded, had formed an adhesion to the inguinal ring: this portion of intestine was found to be immediately under the ensiform cartilage, and pressing on the lesser curvature of the stomach: the intestine had no doubt altered its position to accommodate the continued fæculent accumulation: the adhesion which had been formed had lengthened as that part of the intestine to which it was attached had altered its position; it now measured 17½ inches, and passed like a piece of cord between the points of attachment (the intestines and abdominal ring).

Mr. STANLEY exhibited a specimen of

Obturator Hernia,

which occurred in a female, æt. 47. Constipation, with its ordinary consequences, amongst which were frequent vomitings of fluid having a strong fæcal odour, had existed for three weeks. But it was doubtful whether the obturator hernia had been, from the commencement of the case, the sole cause of the constipation and its accompanying symptoms, as there existed besides an omental hernia, protruded beneath Poupart's ligament into the thigh, where the omentum had become fixed by adhesions to the peritoneal sac protruded with it. Upon this omental hernia an operation was performed, with the effect of replacing the protruded omentum into the abdomen. From this period the symptoms abated in severity, but without any action of the bowels. The symptoms returned with increased severity, and the patient sunk three weeks from the commencement of the constipation.

There was no swelling on the inside of the thigh, nor any other circumstance to induce a suspicion of any protrusion of intestine or omentum through the obturator foramen.

The protruded intestine, which was a portion of the ilium enveloped by omentum, was found with its peritoneal sac beneath the obturator externus muscle, between the muscle and the obturator fascia. The obturator artery and nerve were found immediately above the hernial sac; the artery towards its inner side, and nerve towards its outer side.

The intestine was closely adherent to its peritoneal sac; but there had not been sufficient constriction of the intestine to cause its strangulation.

Dr. Beith, R.N., exhibited a

Tumor of the Cerebellum,

from a man, æt. 67, who died asphyxiated from the impaction of a piece of potato in the larynx. On examination of the brain there was found a soft semi-fibrous tumor, which sprung from the right crus cerebelli, the size of a large walnut; it had produced absorption of the corresponding lobe of the cerebellum to a great extent, and had rendered carious the petrous portion of the temporal bone. The right half of the pons varolii was also almost completely destroyed. For the last two years of the patient's life he had suffered from amaurosis and paraplegia, which during the first half of this period had been partial and progressive, and during the latter part permanent and complete. The cerebrum was healthy, and the ventricles contained a small quantity of serous fluid. The eyes and optic nerves having been found quite healthy in structure, Dr. Beith gave it in as his opinion that the loss of vision depended, most probably, on the pressure to which the fifth nerves had been subjected near their origin by the cerebral tumor. The spinal marrow was not examined.

Dr. Beith also exhibited a specimen of

Rupture of the Right Ventricle of the Heart.

The patient, aged 79 years, a somewhat corpulent man, had for several years of the latter part of his life complained frequently of pain in the region of his heart; had suffered from shortness of breath, and was the subject of occasional attacks of vertigo and fainting fits. On the 31st March, 1851, at 5 o'clock, P.M., he suddenly fell down in what was stated to have been a fit. For several days previous to this occurrence he had complained of great pain in the situation of the heart, and of a sense of constriction across the chest. When first seen he was found to be in a semi-comatose condition; the pulse was small, feeble, and irregular, and the skin cold and livid. On the following day he had so far recovered as to be sensible, and able to speak, when he complained much of pain in the region of the heart, shooting towards the back and left shoulder. The next day he laboured under great prostration; the countenance was of a livid hue, the respiration oppressed, and the pulse was feeble and fluttering. These symptoms continued during the two subsequent days; and in the morning of the following one he became by degrees more and more insensible, and gradually sinking, died.

Autopsy.—The pericardium was distended by a large quantity of blood-coloured serum, and lying behind the heart was a dark coagulum of considerable size. The heart, which weighed 17 ounces, presented a rupture of the right ventricle, situated about midway between its apex and the corresponding auricle. The laceration was about an inch and a half in length.

Dr. Quain examined the specimen, and made the following report:—

Except over the front of the right ventricle, there was not any great amount of fatty tissue on the heart. The walls of the right ventricle were everywhere thin, and composed of fat and of muscular fibre of about equal thickness. The walls of the left ventricle were everywhere thicker than natural: on cutting the walls of this ventricle, the tissue was found tolerably firm, and of a pale fawn colour in many parts, more especially towards the internal surface and near the septum. Both the ventricles and the right auricle contained dark-coloured coagula. The valves were healthy. There was very considerable ossification of portions of the arch of the aorta, and very dense ossification and obstruction of the portion of the anterior branch of the coronary artery leading directly to the seat of the rupture. This rupture externally extended from the septum across the right ventricle, midway between the apex and the auricle. To the extent of an inch and a half it communicated pretty freely with this ventricle: the edges were jagged and torn. It was found that the rupture communicated also with the left ventricle by an opening which admitted the point of the little finger. This opening was situated behind the right columna carnea of the left ventricle, at the junction of the septum with the anterior wall of the ventricle, and was thence continuous with the laceration in the wall of the right ventricle. The walls of this opening through the septum were smooth, and covered with a kind of fibrinous layer or membrane, evidently of some days' duration. This opening was occupied by a coagulum of a chocolate colour, almost dry, and easily crumbling between the fingers. This mass, just sufficient to plug the opening, was also of some days' duration: it was very different in appearance from the loose coagula in the cavities of the heart, and its cone-shaped summit was directed towards the right ventricle. There existed fatty degeneration of the muscular fibres of both ventricles in many parts, but not in a marked degree, except near the immediate seat of the rupture. The laceration of the wall of the right ventricle was due rather to the quantity of fatty tissue growing amongst the fibres, than to degeneration of the fibres themselves. The points of interest in the specimen were—

1st. The progressive character of the lesion. It was quite evident that the rupture commenced when the man was first seized—that is, six days before his death—at the point in the septum above indicated; and that he died when the laceration reached the walls of the right ventricle, permitting of hæmorrhage into the pericardium.

2d. The connection between obstruction of the coronary artery and local fatty degeneration of the fibre was very beautifully illustrated in this specimen.

3d. The form of lesion, rupture into the left ventricle through the septum and wall of the right ventricle, is very rare.

EPIDEMIOLOGICAL SOCIETY.

May 5, 1851.

Dr. Babington, the President, in the Chair.

On the Propagation of Yellow Fever by Contagion.

Dr. M'William, in reply to the various speakers who had assailed the conclusions at which he had arrived regarding the importation of yellow fever into Brazil, and the subsequent diffusion of that malady over the sea-board provinces of that empire by means of contagious propagation, begged to inform those gentlemen who based an objection to his views on the ground that there was no proof of yellow fever having prevailed either at New Orleans or Havanna, at the time the vessel alleged to have imported the disease left those ports, that as regards slave ships false papers were the rule and not the exception. A very slight acquaintance, however, with tropical disease would have suggested the fact, that the prevalence of yellow fever at either of those ports to such an extent as to indicate foul health bills, was by no means indispensable to the point for which he (Dr. M'William) contended. Every one who had been in the West Indies knew that a man may land at one of the islands—Cuba, for instance—and without ever being to his knowledge near a person labouring under yellow fever, might contract that disease; in the same manner that a person, more especially if he belonged to the dark or mixed races, on arriving in England, without being conscious of having ever been in any degree near a small-pox patient, might nevertheless become infected with that disorder; showing, as has been well observed by Louis and others, that the occurrence of yellow fever or of any other disease in a sporadic form, is no proof whatever against its contagiousness. Dr. M'William said either or both of the ports of New Orleans and the Havana might have been sickly at the time the vessel sailed from them for Bahia; but that the determination of this question was not necessary to his case. The point to be ascertained was whether the vessel had suffered from yellow fever during her passage from those ports to Bahia. This had been satisfactorily answered by the English consul at Bahia, as well as by Dr. John Paterson, and Dr. Alexander Paterson of the same place. It was also clearly shown, by the last named gentleman, whose testimony there was no reason to doubt, that before the arrival of the vessel in question Bahia was perfectly healthy, and that fever broke out within three weeks after her arrival, in the quarter of the town where the passengers lodged, and afterwards in a house above a store frequented by the captain. The radiation of the disease on shore was governed, not by proximity to infected districts, but by the amount of traffic with such districts. It had been objected to the house over the store being infected by the captain, from his never having been sick himself; but in answer to this it is well known that scarlet fever, puerperal fever, and even typhus, may be communicated through the medium of fomites. Those, however, who rejected belief in this mode of the transmission of disease had no similar excuse for rejecting the evidence derived from the Spanish passengers' lodgings.

The first outbreak of the yellow fever (which had extended, with greater or less severity, from the equator beyond the most southern limit of the empire) at a port where a vessel having suffered from that disease had shortly before arrived, was of itself an important fact in the history of the epidemy.

Dr. M'William proceeded to show that at Pernambuco the disease appeared within a week after the arrival of an infected vessel from Bahia; and that, although a contagious chain could not be established from the evidence supplied between the first case and the vessel, such a negative fact was more than counterbalanced by the many positive and absolute proofs of contagious propagation which the progress of the epidemic afforded, both ashore and afloat, at Pernambuco.

Following the disease on to Rio Janeiro, Dr. M'William stated that, according to Dr. Lallemant, the population, before the outbreak of the fever, were suffering from gastric and other disorders; while Dr. Pennell, Dr. Lee, and others, declared the city quite healthy at the period in question. Dr. Lallemand saw the first two cases of yellow fever on the 28th December, 1849, and, by the 20th of January, 1850, had received twenty cases into the Misericordia Hospital, all coming from the same focus, and of whom the first attacked had arrived on the 3d December, in a vessel called the "Navarre," from Bahia. It had been urged that, notwithstanding isolation and segregation, the disease had found its way into houses in Rio and its neighbourhood. Dr. M'William observed that this was a very fair ground of argument, but that it was not safe for him who used it to push it too far; it was very apt to captivate those not accustomed to dip much under the surface of the question of contagion, who, giving it full force, did not always foresee its inevitable consequence, which was to destroy the belief in the contagion even of small-pox; for it is undeniable that small-pox frequently appears in cities, houses, hospitals, and prisons, without the possibility of tracing any like proof of a contagious chain of communication.

Some gentlemen had considered the fact of yellow fever patients having gone from Rio to Petropolis (between 2000 and 3000 feet above the level of the sea), and to places less elevated, without communicating the disease to the inhabitants, as the climax of argument against its contagiousness. Dr. M'William had not expected, in a Society like this to hear such an objection. Why, the most ultra-contagionist (Sir Wm. Pym, for instance) admitted that the contagious powers of yellow fever are destroyed by cold, or by a free circulation of cool air. He needed hardly to say that temperature, besides depending on latitude and longitude, depended also upon elevation above the sea level; and that a certain diminution of temperature,—in other words, a relative degree of cold,—was obtained at Petropolis, and at other places even less elevated, in the neighbourhood of Rio. Not only were the contagious properties of yellow fever destroyed, but the disease itself was even annihilated at certain altitudes, as was pointed out by Baron de Humboldt upwards of half a century back. If any one desired a convincing proof of the difference of result between the transportation of a yellow fever patient some distance from an infected source to elevated ground which is uninfected, and of his being taken a similar distance on a flat country which is also uninfected, let him look first to Petropolis, where none of the residents became infected; and next to Engenho Caruana, near Pernambuco, where, under precisely similar circumstances, except that of elevation, many of the residents became infected, and perished in consequence.

In like manner some gentlemen had eagerly adopted the hypothesis of Dr. Lallemant, by which he endeavoured to account for the outbreak of yellow fever at Rio by the absence of those thunder-storms and rains which were common in former years. In so readily seizing this hypothesis, gentlemen must have either forgotten, or never known much, of the climatology either of the northern or southern tropic; for it would go to prove that the absence of thunder and rains tended to the production of yellow fever; and conversely, that the prevalence of these atmospherical commotions warded off this disorder. Now, asked Dr. M'William, what do we find in nature? The eastern coast of South America south of the Line is seldom disturbed by any more violent winds than the trades, and the land and sea breezes; while to the northward of the Equator hurricanes and atmospherical changes are common, as the history of the northern portion of the South American Continent, and of the West Indies, but too dismally tells us. The southern side is a region of peace, the northern side is comparatively a region of storms. If the hypothesis be worth anything, yellow fever ought seldom or never to prevail in the West Indies, or on the South American Continent north of the Line; and it ought nearly always to prevail in Brazil, south of the Line. It was scarcely necessary to state that the very reverse was the fact. For the seventy years preceding 1849 yellow fever had been unknown in Brazil; while, during the same period, some parts of the northern side of the Continent, and the West Indies, had seldom, if ever, been free from that scourge.

It had been asked somewhat triumphantly by the principal objector, at all events by the gentleman who spoke the most against the foreign introduction of the fever—"How was it that at the Rio Grande de Sul there was only *one* person attacked with yellow fever?

The gentleman who considered this a cogent argument seems to have forgotten that he was invoking elements which must tell against himself.

Supposing the disease to have depended upon a general terrestrial or atmospherial cause, surely no one will venture to say, that in this province, intersected by marshes, and, theoretically speaking, abounding in other pathogenetic influences, containing a population of some hundred thousands, *one man only* was susceptible of such influences. Dr. M'William did not profess to know the circumstances of the case at Rio Grande de Sul; but on the ground of the disease having depended upon a generally prevailing cause; the attack of a single individual was inexplicable; whereas supposing the disease to have been of foreign origin, it was quite explicable.

Looking at the march of the disease on the great scale in Brazil, continued Dr. M'William, we see that it first broke out at Bahia in lat. 13° South; next at Pernambuco in 8° South; thus passing over Maceio in 10° South. It will not do to say that Maceio could not receive the disease, because that place became afterwards infected by a ship from Bahia. In March it had reached Para, within little more than one degree from the equator, passing over Maranham, Pamahyba, Ciara, and Aracati,—all situate between the 2d and 4th degree of Southern latitude. Maranham throughout maintained rigorous quarantine measures: the other ports had almost no communication with Bahia, Pernambuco, or Rio de Janeiro. In the same way was the progress of the disease southward. It was at Rio de Janeiro in 23° South, before it was any where a hundred miles South of Bahia, in 8° South; clearly showing that its spread depended upon frequency of intercourse with, and not upon proximity to, infected places. Monte Video and Buenos Ayres, although visited by infected ships, the "Tweed," from Bahia, and the "Cormorant," from Rio, escaped throughout. Both ports adopted quarantine measures.

In short, the history of the epidemy, Dr. M'William said, fully bore him out in his conclusion that the proof of the importation of the fever into Bahia was strongly presumptive; and that the evidence of its contagious propagation, both afloat and on shore in Brazil, was positive and absolute. One gentleman had expended a considerable amount of eloquent indignation against the quarantine laws. Dr. M'William said, he knew something of those laws, from which he had, in various countries, been subjected to much personal inconvenience. Dr. M'William desired much to see the European and other powers set to work to reform the quarantine laws. He hoped, however, that if a quarantine congress did assemble, it would be composed of men whose object was something beyond a mere crusade against quarantine. He trusted that those selected by the various countries for so high a duty, would be men who, from their standing, education, habits, experience,—and he would add, freedom from political trammelling,—were likely to produce a report worthy of the occasion, and wholly irrespective of the political, commercial, or other views of the Governments they respectively represented.

May 16.

Vaccination and Small-pox.

We subjoin a list of the questions which have been issued by this Society, for the purpose of procuring information on vaccination and small-pox:—

1. Have you any record of the cases of small-pox which have fallen under your observation, whether,

a, Natural.

b, After a previous attack of small-pox, or,

c, After vaccination;

and, if so, would you state the number of each kind, and any particulars you may be acquainted with, especially with regard to the ages of the patients, and the character of the attack in each class of cases?

2. What has been the mortality in each class that you have specified, and in how many cases, *especially in those after vaccination*, could the death be fairly ascribed to small-pox, or to previous, coincident, or superadded disease?

3. In each case of small pox after vaccination, how long a period had elapsed since the performance of the vaccination?

4. In cases of small-pox, presumed to be after vaccination, what was the evidence of the vaccination having been effective?

5. Have you any facts to show that the protective or modifying power of vaccination bears any relation to the *number* of genuine cicatrices left by the operation?

6. Have you *seen* the vaccine disease, and subsequently small-pox, occur in the same individual; and if so, in how many cases?

7. Have you ever had an opportunity of watching an epidemic of small-pox from its outbreak to its termination, and would you favour the Society with the result of your observations? The Committee are desirous of being informed whether the disease first appeared among the resident inhabitants of the district, or whether it was imported, or produced *by inoculation?*

8. Have you any evidence of the spread of small-pox from the improper exposure of persons labouring under the disease?

9. In what manner are you in the habit of performing the operation of vaccination? How many punctures or incisions do you make? In a person whom you have vaccinated, what are the tests which satisfy you that the vaccination has been effective?

10. Are you in the habit of omitting to vaccinate in the winter, and, if so, for what reasons?

11. Are you able to maintain a supply of lymph? If not, how are you supplied? Have you (at any time) experienced difficulty in obtaining lymph when required?

12. Have you ever seen any anomalous effects follow vaccination, or anything to support the notion that other diseases may be introduced into the system through vaccine lymph?

13. Have you ever vaccinated directly from the cow, or known any one so vaccinated, and with what results?

14. In how many cases have you re-vaccinated? What were the results of the operation? What evidence had you in each case of the former vaccination having been effective? Have you any facts in proof of re-vaccination affording additional protection from small-pox?

15. By any inquiries you have had occasion to make on the outbreak of small-pox, have you ever been able to ascertain, or could you now ascertain, the number of unvaccinated persons in your town, parish, or district?

16. Have you known instances in which vaccination of all the inhabitants of a village or district has prevented the epidemic visitation of small-pox, although it prevailed in adjoining places; and, if so, will you state the exact particulars?

17. What have you found to be the principal obstacles to vaccination being universally practised, and can you suggest any plan for insuring the vaccination of every person throughout the kingdom?

18. Have you *yourself* been vaccinated, and at what age? Are there any cicatrices visible; and, if so, what is their number and character? Have you been re-vaccinated, and with what effect? Have you been frequently exposed to small-pox? Have you taken small-pox; and, if so, what period had elapsed since the vaccination and since the re-vaccination?

ACADEMY OF MEDICINE, PARIS.

April 23, 1851.

Chlorosis in a Male.

M. **Marchal** (of Calvi) communicated a case of chlorosis occurring in a subject of the male sex, and in which a notable diminution of red blood globules was observed.

New Mode of Administering Chloroform.

Dr. **Yvonneau** (of Blois) submitted to the notice of the Academy a particular manner of administering chloroform in exact doses, and free from all danger. Dr. Yvonneau's method consists in the enclosure of the chloroform in capsules of crystallised sugar, containing each one or two drops of chloroform. This method had been successfully employed in a case of obstinate hiccup; in another, of hysteria; and in a case of vomiting.

Uses of Matico.

M. **Cazenbee** transmitted an essay, in which he submitted the following conclusions:—1. That matico is an excellent means of facilitating the healing of recent wounds; that it is especially useful after operations, in promoting union by the first intention; that it has a remarkable effect in arresting traumatic hæmorrhage; that it is the most certain remedy for the arrest of hæmorrhages from internal causes; lastly, that matico, by its aromatic, tonic, and astringent properties, is also fitted to fulfil other therapeutic indications.

On a Peculiar and hitherto Unobserved Condition of the Lungs resulting out of Congenital Syphilis.

M. **Depaul** read an essay, in which he reviewed the entire subject of the transmission of syphilis to the fœtus in utero, by which he sought to prove that, the mother being incontestably healthy, and syphilis having been transmitted only from the father at the moment of fecundation, the embryo alone being affected has infected the mother during its stay in the uterus.

The author in the next place addressed himself to the consideration of the different manifestations of congenital syphilis—viz., the death of the fœtus at an early period, and its subsequent expulsion; the numerous forms of skin disease seen on infected fœtuses; diseases of the bones; peritonitis; disease of the liver; and certain forms of disease of the thymus body, pointed out by M. Dubois.

M. Depaul then arrived at the lesion of the lungs, which formed the principal subject of his memoir. The author stated that his early researches had been published by him in the year 1837, in the Transactions of the Anatomical Society. Since that period numerous facts of the kind had come under his notice: three of these were related in detail to the Academy. In all these, syphilis had existed in the father, or mother, or both. The pathological changes which were presented were sometimes simple induration, consisting of infiltrated pus, sometimes as topical accumulations of pus. These pulmonary lesions rarely existed alone: usually there were also traces of syphilitic disease on the skin. This disease of the lungs, M. Depaul stated, is rarely amenable to treatment: hence he enforced the imperative necessity of submitting to a mercurial course the pregnant female suffering at the same time from syphilis.

Successful Cæsarean Operation.

M. **Dubois** read (for M. Bouchardat) the history of a case in which the Cæsarean operation had been successfully performed. The subject of the operation had suffered from rickets, and had considerable diminution of the superior diameters of the pelvis. In her first pregnancy she had been delivered by embryotomy at the full period. In the second labour there was presentation of the occiput, the umbilical cord, and an arm: the Cæsarean operation was performed; the child was delivered alive, but it died on the fifth day; the mother had completely recovered.

ACADEMY OF SCIENCES, PARIS.

April 28, 1851.

Dr. **Marshall Hall** transmitted a note on the functions of the different nervous systems, in which the author explained his experiments and views with regard to the three systems—cerebral, spinal, and ganglionary.

On the Presence of Mineral Poisons in the Nervous System after Death by Acute Poisoning.

Dr. **Boucher** (of Strasbourg) has undertaken a series of experiments, by the exhibition of arsenic, lead, copper, and mercury, to dogs, with the view of ascertaining if these poisons can in reality be detected in the cerebrum and spinal cord. Arsenic was twice found in the substance of the brain. Mercury was found in each instance of three experiments of poisoning by mercury. Copper was discovered in five instances out of six of poisoning by the sulphate. In three cases the proportion of the oxide varied from three to six thousandths. The brain of dogs not poisoned yielded scarcely an appreciable quantity. Lead was extracted in the proportion of eighteen thousandths from the brain of a dog which died at the end of three days, from acetate of lead. These facts induce the author to think that the mineral as well as organic poisons exert a direct influence upon the nervous centres.

Hospital and Infirmary Reports.

ST. JAMES'S INFIRMARY.

Four Cases of Strangulated Femoral Hernia, recently occurring under the care of Mr. **French**, Surgeon to St. James's Infirmary. [Reported by Mr. T. **Buzzard**.]

Case I.—Margaret Leech, aged 52, a washerwoman, was admitted into St. James's Infirmary, on March 14, 1851, with a strangulated femoral hernia on the left side. She has been ruptured for several years, but has not worn a truss. The means which were employed for the reduction of the hernia having failed, Mr. French proceeded to operate twenty hours after the strangulation of the hernia. An oblique incision three inches in length having been made over the tumor, the fasciæ were divided and the sac exposed. On cutting through a tight stricture, formed by Poupart's ligament, outside the sac, the wound filled suddenly with blood, to which Mr. French attached no other importance than that it would interfere with the healing of the wound by the first intention. When the stricture had been relieved, the intestine was easily returned without opening the sac. The wound was dressed in the usual manner. A short time after the operation some slight bleeding occurred, which soon ceased, without any disturbance of the compress or bandage. A sedative draught was given, and the patient slept well during the night. Forty-eight hours after the operation, the bowels not having been relieved, an aperient draught was given, which acted freely.

17th.—The sutures were removed and strips of plaster substituted: progressing favourably.

There was oozing of blood for six days, which ceased after the application of a strong solution of gum Arabic to the wound and neighbouring skin. She continued to do well, granulations filling up the wound, which was pronounced healed on April 2d.

Case II.—Henry N., aged 84 years, an imbecile and epileptic old man (from whom no information could be derived), was found, on April 13th, 1851, to be vomiting stercoraceously. In consequence of this symptom his abdomen was examined, and a femoral hernia was discovered on the left side, which Mr. French endeavoured, but unsuccessfully, to reduce. Here, too, the stricture being divided outside the sac, the hernia was reduced without opening the peritoneum. Scarcely a drop of blood was lost, and the wound, being held in position by three sutures, was covered with a compress of lint and bandage.

14th.—The patient is very comfortable, having had no return of vomiting.

15th.—His bowels have not been opened. To have an injection.

16th.—Tongue much furred. The injection had no effect upon the bowels. To have an aperient draught; to be sustained with beef-tea, brandy, and arrow-root.

17th.—The draught did not operate. He takes nourishment well; his tongue is in the same dry, furred state.

18th.—The bowels have not yet acted. To have some calomel and colocynth. There is a free discharge from the wound.

19th.—No motion as yet. To have injections twice daily.

20th.—There has been no action of the bowels. To have calomel, two grains, and Ext. Coloc. Co. six grains, every eight hours, and an aperient draught after each dose of pills, until the bowels act.

21st.—The bowels have acted very freely this morning. Granulations are filling up the wound, which discharges healthy pus.

On April 23 he suddenly became very low; but the following day he rallied, and has since improved daily. His appetite is very good, taking a mutton chop every day. The wound is now contracting rapidly, and very nearly healed. From the idiotic state of this patient, and his consequent inability to give the slightest information, it is impossible to determine how long the intestine had been strangulated when he was first seen. The stercoraceous vomiting, which then constituted one of the symptoms, proves, however, that this must have existed many hours.

The two following cases occurred in Mr. French's out-door practice:—

Case III.—On February 2, 1851, Mr. French was requested by a private practitioner to see Jane D., aged 44 years, a poor woman, the subject of a femoral hernia on the left side, having charge of an empty house in Stable-yard, St. James's. On examining and questioning the patient, it appeared that she had been ruptured for two years, but had never worn a truss; she had always been able to reduce her hernia until ten days previously, when she failed to do so. She, however, did not seek surgical assistance until February 1, when the hernia had been strangulated nine days, and reduction was then found to be impossible. When seen by Mr. French her abdomen was greatly enlarged and tympanitic, the patient herself being in a very exhausted state. Her bowels had not been opened for eleven days. Mr. French failed to reduce the hernia by the taxis, and proceeded at once to operate. The sac was found to be adherent to the intestine throughout. Upon passing a director through the stricture into the cavity of the abdomen, a gush of a thin fluid, resembling a mixture of tea and milk, escaped. The intestine was covered with numerous dark spots of congestion. Some wine was administered to her immediately after the operation, as she was greatly exhausted. She died the ensuing night. A post-mortem examination could not be obtained. In this case, the length of time that had elapsed, and the condition of the patient, left little expectation of any other issue.

Case IV.—Anne T., aged 68 years, had been affected with asthma for fourteen years, requiring to be supported during the night by pillows. She had not quitted her room for four months. Mr. French, on being called to see her, on March 22, 1851, found that she complained of severe pain in the abdomen, and had been vomiting. On examination, a femoral hernia was discovered on the right side, which she states has existed for thirty years, but that she has not worn a truss. The hernia was in the habit of descending occasionally, and she always succeeded in returning it until twenty-five hours before being seen, when she found it impossible to do so. The hernia, which was soft and of great size, having been found incapable of reduction by the taxis, was returned by operation. During the operation the abdomen, which was much enlarged and very tympanitic, required to be held out of the way by an assistant. It was here found necessary to open the sac and to divide its neck, as the hernia could not be returned through the sac after free division of the stricture at Poupart's ligament. The intestine was found to be greatly congested. There being a large quantity of omentum, a ligature was placed upon it and a portion removed. Very little bleeding took place. After the operation, the pulse being low and the patient exhausted, a stimulant was given to her. On the following day she was feverish, and complained greatly of her difficulty of breathing, which was somewhat relieved by supporting her in bed.

25th.—The sutures were removed. There is some erysipelas about the neighbourhood of the wound. An aperient draught ordered, which operated freely four times. The abdomen became quite soft and of a natural size. There is great blueness about the face and hands, and her breathing is very bad.

From this period the wound progressed very favourably, contracting and becoming filled with granulations; the bowels also became regular, acting spontaneously once daily. The patient, however, after improving daily up to March 21, was on that day suddenly attacked with great difficulty of breathing, which grew rapidly worse, preventing her from taking any nourishment, and she sunk the following day.

In this case the operation was completely successful, the patient dying from old standing disease of the lungs. She laboured under considerable disadvantages from the circumstance of her refusing to be removed to the Infirmary, where better nursing and a purer atmosphere would have been obtained than she had in the close confined room in which she lay.

In reference to these cases, Mr. French remarked that it is truly enough said that the real danger arising from strangulation of the intestine is the length of time the constriction is permitted to exist. It appeared also to be clear to him that, as a general rule, it is always proper to attempt the reduction without opening the sac,[*] just as it is necessary to endeavour to avoid the use of the knife altogether by employing the taxis. That the taxis might be efficiently used in these cases, Mr. French availed himself of the assistance of Dr. Picton in one case, of Mr. F. Hicks in two others, and Mr. Haynes Walton in a fourth.

HÔTEL DIEU, PARIS.

Case of Acute Anasarca. Under the care of M. Chomel.

If the labours of modern physicians have thrown great light upon the causes and manner of production of dropsies in general, and of anasarca in particular, it is not less true that cases are often presented in practice in which it is difficult to attach general infiltration to either of the categories into which experience has grouped dropsies. In reference to anasarca, two hypotheses occur to the mind,—either that the general infiltration has its cause in some obstacle occurring at the centre of circulation, or, being partial, that it is owing to some local obstruction in the circulation of the part affected; or, on another supposition, the dropsy is the result of a change in the composition of the blood, whether it be a simple impoverishment of this fluid, as is seen in chlorotic and anæmic conditions, in the course of certain chronic affections, in some cachexies, or whether it consist in that extensive loss of albumen which forms the chief feature of the disease known as albuminous nephritis, Bright's disease, albuminuria. It may, however, happen without the possibility of our recognising any alteration of importance in the central organs of circulation, in the large vessels, nor any appreciable change in the composition of the blood. In this case it is evident that the physician will find himself much embarrassed, and will be the more at a loss for prognosis and the indications of treatment. Perhaps as the different kinds of anasarca do not observe the same order, it might be possible to deduce from an attentive observation of the occurrence of their symptoms, sufficient data for the formation of a probable diagnosis; but the difficulty is greater when anasarca, instead of being developed slowly, comes on rapidly and unexpectedly—when it is, as it is termed, acute—when it has not been preceded by any phenomenon which can indicate its origin—and when it is not accompanied by any sign that can be attached to one affection rather than to another.

M. Chomel has recently had under his care a patient attacked with acute anasarca, occurring without any appreciable cause, and has taken occasion from this case to offer some remarks upon the most frequent cause of these dropsies. The following is the case:—

A man, aged 52 years, a painter, was admitted Feb. 13th. He was robust, of a strong constitution, and had had no illness for twenty years. He had not been exposed to damp, and had not suffered either from dyspnœa or palpitations of the heart. He had been well fed, had not undergone excessive fatigue, nor had suffered from anxiety of mind. The patient dated the commencement of his complaints fifteen days previously to his admission. On making closer inquiry, however, it was found that he had suffered general *malaise* during the previous five or six months, attended with loss of appetite, weakness of the limbs, and sleeplessness. Within the last eight or nine days he had been affected with catarrh. On the 8th February he had noticed that his legs and abdomen were œdematous, without any known cause. On the following day, his arms, chest, and face had become swollen, and in a few days the tumefaction had attained a considerable extent. The urine, at first, had not presented anything abnormal, except that it was rather more turbid than usual.

On the 14th February the following was the state of the patient:—General œdema, more evident on the abdomen, on the face, and on the lower extremities. Some crepitant râles at the base of the lungs; the liver extending below the edges of the ribs; the spleen larger than usual; the heart's action normal, the impulse feeble; the pulse slow and regular, fifty-two in the minute.

M. Chomel confined himself to prescribing a ptisan of dog's-teeth (*chiendent*[*]), and a potion of oxymel of squills. Under the influence of this treatment alone, aided by absolute rest, the œdema had much subsided. On the 21st of February it had entirely disappeared. The face was natural, the cheeks had colour, the abdomen was soft, the bowels confined, the liver still exceeded its natural limits. The first sound of the heart was prolonged, and attended by a slight murmur. Following the course of the large vessels, the heart's sounds were found quite clear and sharp, especially the first, at the level of the articulation of the second rib with the sternum. A strong impulse was felt on the right side below the clavicle, unattended with fremissement. The general state of the patient was satisfactory. He slept well; his appetite was good. He left the hospital cured on the 25th February.

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[*] Of course the sac is not to be replaced into the abdomen with the intestine, but is to be grasped by the fingers, as is the common integument in raising the taxis.

[*] Triticum repens. The root is said to possess aperient and diuretic properties.

Dr. Aran, who reported the above case, has added a similar one which had at the same time come under his own notice.

In these two cases the anasarca had appeared suddenly and unexpectedly; in one case after a few weeks' general indisposition, in the other occurring in the midst of good health. In M. Chomel's case the anasarca appeared first on the lower extremities, and thence extended over the whole body. In M. Aran's, the disease was manifested first in the face, and then rapidly extended over the body and extremities. The extent and rapidity of the tumefaction, particularly in the latter instance, were remarkable. This feature induced an opinion that the cases were of the kind which depend upon albumen in the urine; but the urine, when examined by heat and nitric acid, did not yield a trace of albumen. Neither of the patients exhibited signs of cachexia. There remained, then, the probability of disease of the heart. In M. Chomel's patient, the lesion of the central organ of circulation did not exceed a slight prolongation of the first sound, with a slight degree of lowering of the point of impulse of its apex. M. Aran's patient had nothing abnormal attending the heart's sounds beyond prolongation of the first sound.

The liver was enlarged in both cases, presenting an obstacle to the venous circulation on the right side of the heart.

In chronic disease of the heart, the ordinary course of the œdema is well known, beginning at the feet and ankles, and gradually invading the trunk and upper parts of the body after a long time, and towards the fatal termination. M. Chomel observes, it is not uncommon to meet with individuals among the labouring classes, presenting every indication of health, and having never experienced any signs of disease, suddenly attacked with anasarca, there being little or no indication of cardiac disease, as tested either by physical or general examination. In this class of society many causes combine to accelerate the course of disease: among these are fatigue, labour, sorrow, disturbed rest, and intemperance. These circumstances lend an influence to disease, and anasarca appears under conditions in which it would not occur without their aid. The removal of the patients from these influences, by rest, &c. is sufficient to effect the disappearance of the dropsy, and their restoration to health. A re-exposure to the same circumstances will cause a return of the symptoms, which will again subside under withdrawal from their action. These acute attacks of anasarca are regarded by M. Chomel as frequently indicative of acute disease of the heart; and in his opinion they point to the existence of acute inflammation, or other disease of the heart or large vessels, in those obscure cases in which no morbid condition of the urine can be detected, nor any alteration in the composition of the blood.

CLINIQUE DES DÉPARTEMENS.

Strangulated Ventral Hernia—Operation—Rapid Death. Under the care of Dr. Carville, Surgeon to the Central House, Gaillon.

The prodigious size of this tumor, formed of at least five metres (=5·468 Eng. yards) of small intestine with its mesentery; the strangulation so rarely met with, when the opening is large and the hernial sac consists of a large portion of the abdominal walls—the rapid death of the patient—and the absence of lesions to account for it—are all circumstances either one of which would alone have given to this case a high degree of interest. The following is a narrative of the case.

On the 12th of February, 1851, about three o'clock in the morning, the patient, Pierre Boulanger, was brought to the Infirmary. His age, forty-nine years, of a mixed temperament, and possessing a good constitution. He presented a tumor, as large as a man's head, between his legs; it had a singular appearance, and the patient stated that it had occurred suddenly. The circumference at its greatest diameter was twenty-two inches; its length from above downwards, eleven inches; its base extended from the anus to the penis, reaching farther on the right than on the left side, and could hardly be embraced in the two hands it consisted of the skin of the scrotum enormously distended: the penis had entirely disappeared; only the point of the prepuce could be traced. The abdomen felt depressed and empty. The tumor was not translucent. Percussion on its surface produced a slightly dull sound at some points, and tympanitic resonance elsewhere; outlines of the convolutions of the intestines could be detected by the eye and by touch; at its neck, pressure produced a gurgling sound. There could be no doubt that this was a case of ventral hernia through the right inguinal canal. The hardness of the neck of the tumor, the coldness of the skin, the feebleness of the pulse, the paleness and distortion of the face, the character of the vomiting, the colicky pains, and the hiccup, all indicated strangulation.

The history of the case that was gathered was as follows:—His father had suffered from a right inguinal hernia. He had himself been ruptured when thirty years of age, by lifting a heavy piece of wood; he had worn a truss, but had neglected the use of this during the last six months. In consequence of this neglect, and from the nature of his employment, in a silk manufactory, necessitating the constant elevation of his arms, while exposed to dust, which often excited a cough, the hernial tumor had continued to increase in size until it had attained that of the head of a new-born infant; but the ring had acquired a proportionate size, and the return of the hernia was easy. On the 12th of February, however, the tumor suddenly attained the size it had presented on admission.

The efforts made at reduction were unattended with success. Eighteen hours after the occurrence of the accident, the symptoms had become so serious that it was not deemed advisable any longer to postpone an operation.

The integuments were divided in the axis of the tumor to the extent of twelve or fifteen centimetres (= from 4·724 — 5·905 Eng. inches); the subcutaneous cellular tissue was then carefully divided down to the sac, whence there escaped a sanguinolent serosity. The intestines, generally, were of a reddish violet colour, and distended with gas, but presented no trace of inflammation or of gangrene. The index finger discovered that the stricture was formed by a part of Poupart's ligament, and of the fascia lata, so strongly contracted upon the hernia, that it was with difficulty the finger could be introduced. With some trouble the stricture was divided, and the whole mass of intestines gradually returned. The patient was calm during the operation. The intestines having been returned, the abdomen assumed its normal aspect. The scrotum was livid on its inner surface, it was flaccid, soft, and pendant. The patient was placed in bed, and a physician sat by his bedside to watch him. An antispasmodic mixture was given, fomentations were applied to the abdomen, and an enema was administered to promote action of the bowels.

The patient appeared to improve; the vomiting ceased, some warmth returned to the skin, but the hiccup occurred occasionally; the breathing was hurried, the mouth and tongue were dry; the pulse remained feeble: no sleep followed. At four o'clock in the evening constant agitation and movements were noticed, with loquacity, impatience, increased distress in breathing, oppression at the epigastrium, delirium, tumultuous action of the heart, an involuntary fœtid evacuation, dilatation of the pupils,—death.

The autopsy was made 24 hours after death. The intestines presented the same appearance, denoting that the circulation in their structure had not been re-established. They were equally distended with gas and fluid as when reduced, but they presented no invagination or strangulation throughout their extent. One portion, which had formed the habitual hernia, was of a darker colour than the rest of the intestines; it was thickened, and the glands of its mesentery were swollen and indurated.

When laid open, the strangulated portion of intestine was found to contain only gases and sanguinolent effusion. Effusion had taken place to a slight extent in the pelvis, in consequence probably of the obstruction to the circulation. The valvulæ conniventes were softened and swollen, especially in the old hernia. The existence of chronic enteritis, and of long-standing derangements of the alimentary canal, were detected. Other abdominal viscera were healthy.

What was the cause of death in this case?

Dissection did not disclose sufficient lesions to explain it. The operation had terminated successfully, and was followed by none of its frequent consequences. There existed as little ground for assuming an alteration in the state of the fluids, for scarcely sufficient time had elapsed to admit of the supposition of any change of importance in the constitution of the blood, of which moreover there existed no indications.

The symptoms and result are attributed by Dr. Carville to the impression made upon the nervous system.

⁂ This case illustrates the observation of Dr. Latham, in his Lectures on the Principles of Medicine, delivered at St. Bartholomew's Hospital, 1835,—viz., that the organs below the diaphragm have a more strict alliance, or more direct sympathy with the nervous system than those above that organ, and that consequently in any derangement of their functions the nervous system suffers in proportion. Thus acute inflammation of the intestines may cause death while in its incipient stage, whereas after death from inflammation of the thoracic organs, the most palpable mischief is usually found.

Correspondence.

ON THE ALLEGED DANGER ARISING FROM THE USE OF CHLOROFORM IN CASES OF DISEASE OF THE HEART.

SIR,—I am sorry to take up any of your space with the correction of the unintentional misreport of any observations of mine; but I hope you will give me room to remark on that of some made by me at the last meeting of the Royal Medical and Chirurgical Society.

I never ventured so far as to say that "fatty degeneration of the heart could not by possibility be diagnosed." I simply said that chloroform might happen to be administered in some cases of the affection where it could not be so.

Neither did I observe that "no case of fatty degeneration or organic disease of the heart would allow of its administration." There can be no doubt that it has been very frequently given where the heart (looking to the commonness of the change referred to) has somewhat degenerated. I was only speaking of extreme cases: in these the administration of such an agent must be evidently dangerous, if there be any truth in the views maintained by Mr. Paget, Dr. Ormerod, Dr. Williams, Dr. Quain, and others; and any foundation for the view that chloroform has the effect of exceedingly impairing the irritability, not only of the voluntary, but also of the involuntary, muscular fibre.

Dr. Quain observes, in his very able and ingenious paper on Fatty Diseases of the Heart (Medico-Chirurgical Transactions, vol. xxxiii.), that "it may well be borne in mind that narcotics are given with risk in these cases. One death occurred after an accustomed dose of morphia; another during the inhalation of chloroform." Surely, sir, it is necessary to bear in mind the considerations suggested by this remark. What slight causes suspend the heart's action in some instances of fatty degeneration, is a fact too notorious. May not the action of chloroform happen to do so?

And certainly, in all organic diseases of the heart, the greatest care should be taken in giving chloroform: many seem to me to preclude its administration altogether.

In the observations which I made respecting the effects of chloroform in tetanus I was anxious to state fairly *all* the circumstances which I knew. My own impression is, that it will be found a very valuable agent in its treatment; and I hope one day to have the opportunity of showing, or assisting to show, this; but, in the present state of our knowledge, I did not feel it right to hold back anything I knew, and therefore I referred to the case of M. Roux, in which death seemed not to be caused but hastened by ether; and another in which chloroform was given at Mr. Paget's suggestion, and abandoned, not in consequence of proving fatal, as stated in your report, but of its being considered the cause of imminent danger. My remarks had reference to special, not general danger,—to diseased, not healthy states; and I am represented (see Dr. Snow's remarks) as taking a far darker view of the risk which may attend the administration of chloroform than I really do.

Did I think the giving of it "very dangerous," in an unqualified sense, I certainly should not be warranted in administering it as I do to patients operated on in the hospital to which I am attached.

I have the honour to be, sir,
Your faithful servant,
W. F. BARLOW.

Westminster Hospital,
May 10th, 1851.

Medical Intelligence.

CONVENTION OF POOR-LAW MEDICAL OFFICERS.

A THIRD audit of the Treasurer's Account necessarily leads to a review of the past exertions of the committee, and calls for a notice of the position and prospects of the convention.

The energy and co-operation which characterised the early efforts of the Association have, in a measure, flagged under the discouragement of hope deferred.

The committee, for some time past, have felt that the period was approaching for them for awhile to suspend their meetings, if not to resign that trust to the great body of Union surgeons, by whom, in 1847, they were authorised to act. Though the labours of the committee have been nobly seconded by a few of the union surgeons in the provinces, they have not been able to realise anything tangible, chiefly because they have been only partially supported from without, and have wanted the steady perseverance and united personal exertion of the many, which alone can conquer such diffused and deep-rooted evils as the Convention was formed to overcome. The contributions to the funds have been few, if we except the sums subscribed in 1849, when an impulse was given at the meeting over which Lord Ashley presided.

On the 21st April, the treasurer wrote—"We have over-expended to the amount of

£7. 11s. 1d.;" and added, with his habitual consideration and liberality, "This sum I shall be happy, if I may be allowed, to present to the committee." The committee gratefully record this generous offer, but they feel that it cannot be the will of their constituents that it be accepted.

In looking over the list of names of those who have contributed to the funds of the Association, it is matter for surprise and humiliation to see that not more than about 400 out of a profession of 15,000, and only 404 out of the 3000 union surgeons, have come forward in aid of a cause in which the profession generally, and the union medical staff more especially, are concerned.

Whatever feeling of timidity, apathy, or hopelessness, may have existed amongst the majority of the profession, the committee, on recurring to the small list of free-hearted contributors to their finances, and of manly coadjutors in their operations, cannot but congratulate those gentlemen on the efforts which they have made to overcome a system so oppressive and unjust as that through which medical relief is administered under the domination of the Guardians and of the Poor Law Board. They entertain unshaken confidence in the goodness of their cause, and a full conviction that judicious and well-supported efforts will yet obtain for the union surgeons the redress to which they are so eminently entitled. At the same time, they feel it their duty to urge the poor law medical officers, and the profession in general, to consider how much the redress which is sought, and for which so large a sacrifice of money, exertion, and time has been made by some of their brethren, is within their voluntary grasp; but that it can never be hoped for so long as the degrading and ill-paid appointments are not merely accepted, but made the objects of eager competition.

During the past three years, frequent attempts have been made to call the attention of the Government, and also of the public, to the subject. Earnest applications have been addressed in writing and by deputation to parties of influence in the Colleges and the Hall, to the Poor Law Board, to the Home Secretary, and to the First Lord of the Treasury. Petitions have been again and again addressed to the House of Commons. The Public has been appealed to by advertisements, by addresses, and by reports, which have been seconded by leading articles in many of the most influential journals. These varied efforts cannot have failed to prepare the country for amended legislation; and the speeches of Lord Ashley in February 1849, and of General Sir De Lacy Evans and Dr. J. Arthur Wilson, at the recent interview with Lord John Russell, are proofs of the cordial and stirring sympathy already awakened.

Under the present political aspect, the committee have thought right to suspend their meetings until some special circumstances may determine the time for resuming their exertions. They have consequently discontinued the expenses which secured the services of their assistant secretary. Through the liberal consideration of the Council of the National Institute of Medicine, who all along have placed at the disposal of the committee their eligible rooms in Hanover Square, they have been saved a considerable outlay for offices. This courteous assistance has been specially noticed by a vote of thanks from the committee, which they have pleasure in thus publicly recording. The cordial thanks of the committee have likewise been voted to their excellent Treasurer, Thomas Martin, Esq., whose numerous engagements have obliged him to resign the office.

Contributions, in aid of past and future expenses for printing, advertisements, &c. (charges inseparable from the operations of the committee), are solicited, and may be sent by post-office order to Mr. Lord, who, on the resignation of Mr. Martin, obligingly consented to unite the Treasurer's duties with those of the Honorary Secretary.

Statement of Account of Receipts and Disbursements of the Treasurer of the Commitee of Poor Law Medical Officers from the 19th of February, 1849, *to the* 17th *April* 1851.

RECEIPTS.

Amount of Subscriptions received from 404 Contributors	247	14	3
Balance due to the Treasurer .	7	11	1
	£255	5	4

DISBURSEMENTS.

Balance due to the Treasurer, as per last Account . .	22	17	9
Printing	63	0	11
Stationery	7	15	11
Postages	28	18	0
Advertisements . . .	47	17	6
Room and incidental expenses for Deputations . . .	3	11	0
Messrs. Fuller and Saltwell's Fee	1	1	0
Salary of the Assistant Secretary	65	0	0
Miscellaneous Expenses . .	15	3	3
	£255	5	4

We, the undersigned, having examined the foregoing accounts, with the vouchers, do find the same correct, and that the balance due to the treasurer is seven pounds, eleven shillings, and one penny.

Dated 17th April, 1851.

JOHN PROPERT, } Auditors.
GEORGE JAMES SQUIBB }

By order of the Committee.

THOMAS HODGKIN, Chairman.
CHARLES F. J. LORD, Hon. Sec.

Note.—It is requested that all communications be addressed to the Honorary Secretary, Charles F. James Lord, Hampstead, and that Post-office orders may be made payable to that gentleman at the Post-office, Hampstead.

THE CHOLERA IN JAMAICA.

THE cholera has not altogether disappeared from the island, but still lingers in some of the country parishes. Every step is being taken that medical skill can suggest to stay its progress, and, if possible, to suppress it altogether. The metropolis and the capital of the island were perfectly healthy, no vestige of cholera remaining in either of these places.

MEDICAL APPOINTMENT—ROYAL LONDON OPHTHALMIC HOSPITAL.

MR. H. H. MACHURDO has been appointed one of the Assistant-Surgeons of this Institution. Mr. Nunn, the other candidate, received a large amount of support from the Governors.

ANNIVERSARY MEETING OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION FOR 1851.

WE have authority to state that the next anniversary meeting of the Provincial Medical and Surgical Association will be held at Brighton, on Wednesday and Thursday, the 13th and 14th of August.

UNIVERSITY OF ST. ANDREWS.

LIST of gentlemen who had the degree of Doctor of Medicine conferred upon them, 9th May, 1851:—Henry Allen Aldred, M.R.C.S., London—Charles Alexander Bisset, M.R.C.S., Peckham, Surrey—John Le Gay Brereton, M.R.C.S.E., Yorkshire—Charles Gage Brown, M.R.C.S., L.A.C., Middlesex—Edward Somerset Cleveland, M.R.C.S., Madras—Cydwelyn Ellis, M.R.C.S., L.A.C., London—Samuel Turner Fearon, M.R.C.S., Stanstead, Herts—James G. Gaff, M.R.C.S.E., Newmonkland, Lanarkshire—Robert Douglas Hale, M.R.C.S., L.A.C., Norwich—Constantine Holman, M.R.C.S., Hurstperpoint, Sussex—Henry Hooper, M.R.C.S., London—William Jackson, Monserrat, West Indies—John Joseph Ledsam, M.R.C.S., L.A.C., Warwickshire—Peter Leonard, M.R.C.S.E., Forfar—John Glover Loy Merryweather, M.R.C.S.E., Yorkshire—Thomas L. Nash, M.R.C.S., Dublin—Lewis Newnham, L.A.C., Sussex—Robert Parker, Lic. Fac. Phy. and Surg. Glasgow, Lanark—John Burchall Peren, M.R.C.S., L.A.C., Somersetshire—Thomas Peete, M.R.C.S.E., Margate, Kent—Samuel Reynolds, M.R.C.S., L.A.C., London—Frederic Joseph Bowen, M.R.C.S., Tipperary—Craufurd Smith, Lic. Fac. Phy. and Surg. Glasgow, Ayrshire—James Spark, L.A.C., Newcastle-under-Lyne, Staffordshire—Thomas Richard Heywood Thompson, M.R.C.S., Isle of Man—Benjamin Webster, M.R.C.S., L.A.C., Yorkshire—Edmund Sparshall Willett, M.R.C.S., Norfolk.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 9th instant:—Messrs. W. T. Carr—F. J. Chaldecott—J. Wilde—W. Warwick—H. Simpson—H. Power—E. Moore—E. Wilson—R. Wellings—A. W. Hanford—F. T. Buckland—E. G. Wake—H. C. Thomas—J. Fountain—A. Carpenter.

Selections from Journals.

MEDICO-LEGAL OBSERVATIONS, ON A CASE OF DEATH BY DROWNING. BY M. TARDIEU.

SUMMARY.—*Instructions relative to the aid to be given to the drowned and asphyxiated—Signs of asphyxia by submersion—Medico-legal questions relative to death by submersion—Medico-legal discussion on a case of assassination, followed by submersion—Judgment and condemnation by the Court of Assise of Haut-Marne—Solidification of foot-prints on the ground.*

A RECENT ordinance of the Prefect of Police in Paris has given publicity to a new code of instructions, prepared by the Council of Health of the department of the Seine, with regard to the *treatment of the drowned and asphyxiated*. Since the year 1815 the Council has practised a laudable custom of revising from time to time these important instructions. This was done in 1822, 1836, and 1842. The instructions lately issued are characterised by great precision, utility, and simplicity. They have seemed to M. Tardieu to furnish a fitting occasion for passing in review the principal signs of asphyxia by submersion.

In the first place may be noticed the admission into the air-passages of a small quantity of the liquid in which submersion takes place. The experiments of Louis, Orfila, and Piorry, have established the fact beyond a doubt. The last-named observer has shown that the froth found in the air-passages is produced by the mixture of the inspired water with the air contained in the tubes, and that it is a measure of the intensity and duration of the struggle that preceded asphyxia. That portion of water which is not converted into froth is quickly absorbed, and gives rise to signs which should be carefully noted by the medical jurist. Gohier has shown that liquids injected into the trachea of a horse passed rapidly into the circulation. The same occurs in drowned persons. The absorbed liquid is eliminated in part by the digestive passages, and furnishes the material of the vomitings and alvine dejections, which it is therefore always desirable to excite in the asphyxiated by submersion. Other portions of the fluid are cast off by the bladder, as pointed out by M. Piorry. M. Tardieu points out that one of the most striking and constant effects of this absorption is the liquidity of the blood,—an effect so essentially important that the presence of coagula in the heart may be regarded as a proof that death was not the result of submersion (?).

The froth existing in the air-tubes, after the absorption of the liquid, constitutes the principal obstacle to the restoration of respiration. From this fact indications of treatment may be gathered: such as an inclined position, the lowering of the head, for a few seconds only, below the level of the body, forced inspiration, and artificial expiration by means of the air-pump. This last practice has been justly condemned by the Council of Health. M. Guerard has instituted experiments which show the inutility and danger of the use of the air-pump. The means of exciting gastro-intestinal discharges—*e. g.*, tobacco fumigations—are powerful adjuvants to the absorption of the fluids which obstruct the air-tubes.

Under the double aspect of its medico-legal interest, and its importance with respect to the success of the means of restoration, it is most desirable to know how long life may last after complete submersion, and how the death of a person submerged may occur independently of submersion.

Pia does not allow that restoration to life can take place after an hour's submersion. M. Guerard found only *one* exception to this rule in *five hundred cases.* Vidangeur speaks of a scavenger who was restored to life after two hours' submersion in a well into which he had fallen from the effects of mephitic vapour. Such facts, although they must be regarded as exceptional, prove how requisite it is to continue for a long time our efforts at resuscitation.

The causes capable of retarding asphyxia, or of causing death in other ways, are various, and constitute some of the most difficult problems of medical jurisprudence. M. Tardieu quotes a case which embraces several of those causes, and furnishes points of comparison.

This case, after a careful judicial inquiry, in which many accused persons were brought before the Court of Assize of Haut-Marne, gave rise to a long discussion on the medico-legal proofs of death from asphyxia.

The body of the Sieur D—— was found in a river, at the distance of 115 metres (about 126 yards) from the place where he had passed the night. The river was full to the bank's edge, almost stagnant, and very deep. No hard surface existed on the side or in the bed of the river. The body was half-clad, in the state in which the Sieur D—— was accustomed to retire to bed: it was so placed that the head projected slightly above the water; the arms were extended, the body bent forward, and flexed towards the knees. The corpse was found in some bulrushes, the face and arms turned towards the bank.

The following statements are gathered from the repeated examinations which were made:—The epidermis on the extremities was not whitened; there were no excoriations on the fingers; neither sand nor mud under the finger-nails; six slight superficial excoriations of a bright rose colour were seen on the skin; a small quantity of froth escaped from the nostrils; the tongue lay in contact with the inferior dental arch, of which it bore the impress; no trace of strangulation was discoverable; the lungs were voluminous and gorged with blood; an abundant rose-coloured froth, consisting of small bubbles, filled the larynx and trachea to the first divisions of the bronchi; the left cavities of the heart and the arteries were almost empty; the right cavities were distended with semi-coagulated blood. The stomach did not contain any food; but about four hundred grammes (about 12 oz. English) of colourless liquid resembling that in which the body had been found. The hairy scalp was entire: beneath this, however, on the middle of the frontal bone, was an ecchymosis of the size of a two-franc piece, and over the right frontal eminence a larger ecchymosis. These ecchymoses consisted of extravasated blood, partly fluid and partly coagulated, in the meshes of the areolar tissue, and in the fibres of the frontal muscle. The epidermis over these ecchymoses was remarkably dry and polished; the skin was thinner and more compact here than in other parts, as if it had suffered long-continued pressure by a smooth body. The bones of the cranium, the membranes of the brain, and the brain itself, were all healthy; the membranes only were injected, and the ventricles and arachnoid contained an abundance of serum. There were no traces of violence on the trunk or limbs.

From these facts it was required to determine:—

1. What was the kind of death under which the Sieur D—— had fallen?
2. Whether death had been preceded by any violence which would give force to the more direct cause of death?
3. Whether the violence and death were accidental or voluntary, or whether, on the contrary, they were of a criminal nature?

The lesions discovered after death left no doubt of its cause: the state of the tongue, the froth in the air-tubes, and the presence of a portion of the fluid in the stomach, proved that death had ensued from asphyxia by submersion. Certain circumstances, however, connected with the appearances of the body showed that the asphyxia did not occur as in simple or ordinary conditions. The principal fact having reference to this point was the presence of coagulated blood in the right cavities of the heart. With certain rare exceptions, a fluid state of the blood may be affirmed to be constant in death by drowning. The presence of coagula in this instance was considered to indicate that death had taken place slowly, or, at least, that it was induced by a peculiar state of the nervous and circulatory functions. Add to this, that no sand was found beneath the nails, and that a small quantity only of water was found in the stomach; it is evident that the Sieur D—— had made but very slight movement after submersion, and that he possessed but feeble vital energy when submersed.

Besides the lesions peculiar to asphyxia, other injuries were found on the body, the precise character of which it is very important to determine. The ecchymoses on the forehead were the consequences of contusions received during life, and a short time before death: they were very remarkable for their regularity, their distinctly circumscribed form, and by the attrition of the tissues in which they were found coinciding with the absence of wound or excoriation. These characters are too obvious to admit of their reference to a shock or violent fall, which would have produced an irregular contusion less distinctly circumscribed, most probably attended with laceration of the integuments, and not by that peculiar attrition which could only have been produced by a direct blow of some force. This blow not being sufficient to have fractured the bone, would not have caused the death of an adult and robust man, but was clearly, from the effects left behind, enough to have rendered him insensible. The state of insensibility would explain the slowness of the asphyxia and the existence of coagula in the heart, as well as the absence of signs of any struggles on the part of the deceased to save himself.

The river in which the body was found had not steep or high banks from which the deceased could have fallen with violence: the body was found in a vertical position, supported almost on the surface of the water by the intertwined reeds. It was evident that the body was found in the state and position in which it had been submersed; the water was nearly stagnant, no current had displaced it; and, as the river was deep, the body would not have reappeared on the surface after so short a period.

All the facts put together were considered to admit of no other explanation than that the Sieur D—— had been surprised in bed, as evidenced by the state of his clothes; that he had been stunned by two blows on the head; and that, while in an unconscious condition, he had been plunged into the river, where, supported by the reeds, he remained half-submerged, unable to make any effort to prevent the asphyxia which slowly caused his death.

Accidental or voluntary submersion would have presented different features: the position of the body would not have been the same; wounds, or signs of a fall, or excoriations on the hands or face, gravel, &c., under the finger-nails, entire fluidity of the blood, a large quantity of water in the stomach—all these would have been observed had the drowning been the result of suicide or of accident.

M. Tardieu appends to the preceding a notice of the discovery, by M. Hugoulin, of a means of taking solid casts of footprints on the ground, even in sand or dust.

The marks are to be surrounded by a sort of screen; above it is placed a gridiron, on which is placed red-hot charcoal. The plate soon becomes also red-hot, and heats the sand beneath. When this has reached the temperature of 100 deg. Cent. (= 212 deg. Fahr.), the surface is to be uniformly covered with powdered stearic acid, which, falling as a light snow-like powder, does not in the slighest degree obliterate the marks on the ground, however faint they may be, but as quickly as it reaches the soil disappears, and is absorbed by the earth. This is continued until the earth has so far cooled that it does not any longer dissolve the acid. When quite cold the operation is finished. It remains only to dig carefully around and to remove the impression, and place it on a bed of plaster of Paris.

M. Tardieu states that he has had opportunity of verifying M. Hugoulin's discovery, and states that it succeeds to his entire satisfaction. X

ON PECULIARITIES OF THE SPHENOID BONE.

BY DR. NEILL.

Dr. Neill called the attention of the College to certain peculiarities of the sphenoid bone not described by anatomical writers. In the description of the bone given in the books, we are told that the pterygoid processes project downwards perpendicularly, which may be the case in a large proportion of the skulls of the European races. If, however, we examine a variety of specimens, we find that the perpendicular direction of the pterygoid processes does not invariably prevail. Thus, in the African, they are very oblique, running nearly parallel with the oblique line of the face. In the Mexican skull they are very nearly vertical. There will very generally be found a parallelism between the direction of these processes and the line of the face. In the fœtus they have the peculiar obliquity of the face; and in all races, the nearer the characteristics of the adult head approach those of the fœtal, will the direction of the pterygoid processes be found more oblique. Dr. Neill was not aware that the fact just stated had any important practical bearing; the direction of the pterygoid processes will, however, have some influence upon the direction of the posterior nares, of which it is important that the surgeon should be aware. The more oblique the processes, the more oblique will be the posterior nares, which follow, of course, the direction of the former.—*Amer. Jour. Med. Sci.* January 1851.

BOOKS & PERIODICALS RECEIVED

DURING THE WEEK.

(The List will be given in the following No.)

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	....	29·69
„ „ Thermometer[a]	......	47·4
Self-registering do.[b]	.... Max. 82°	Min. 23°

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·14.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 7° *below* the mean of the month.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 10.

Births.		Deaths.	
Males....	791	Males....	555
Females..	781	Females..	486
	1572		1041

Causes of Death.

All Causes	1041
Specified Causes	1039
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	288
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	22
2. Brain, Spinal Marrow, Nerves, and Senses	128
4. Heart and Bloodvessels..........	42
5. Lungs and organs of Respiration	157
6. Stomach, Liver, &c.	64
7. Diseases of the Kidneys, &c.	9
8. Childbirth, Diseases of Uterus, &c.	11
9. Rheumatism, Diseases of Bones, Joints, &c.	8
10. Skin..........................	6
11. Premature Birth	31
12. Old Age	41
13. Sudden Deaths..................	15
14. Violence, Privation, Cold, &c....	30

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	10	Convulsions........	29
Measles............	41	Bronchitis	60
Scarlatina	11	Pneumonia	77
Hooping-cough	72	Phthisis	143
Diarrhœa..........	23	Lungs	9
Cholera............	0	Teething	14
Typhus............	43	Stomach	6
Dropsy	10	Liver..............	11
Hydrocephalus	39	Childbirth	7
Apoplexy	29		
Paralysis	24	Uterus	8

Remarks.—The total number of deaths was 171 *above* the average mortality of the 19th week of ten previous years.

NOTICES TO CORRESPONDENTS.

J. R. H.—We entertain no doubt that physical and moral degeneracy in breeding increases in a direct ratio to the intermarriages of the descendants. Hence the issue of the children of first cousins are likely, *cæteris paribus*, to be more degenerate, bodily and mentally, than the parents.

Balfour's Manual of Botany.—We have not had an opportunity of examining either the original or the alleged spurious edition of this work. A copy of it has not reached our office, and therefore no notice of it can be inserted.

Dr. Brush's case of Cancer of the Pylorus has been received, and will be inserted.

Mr. Jas. Kirke.—The Notes on Angina Pectoris will be inserted.

Prize Distributions.—We must again remind gentlemen who send us lists of Prize distributions, that they cannot be inserted in the body of the journal.

The Medical Examination papers of the University of St. Andrews have been received. They will be published in the following number.

Lectures.

THE LUMLEIAN LECTURES

FOR 1851.

ON THE RECIPROCAL AGENCIES OF MIND AND MATTER.

Delivered at the Royal College of Physicians.

BY J. C. BADELEY, M.D., CANTAB.
F.R.C.P., Inspecting Physician to the Lunatic Asylums of Essex, &c.

LECTURE I.—PART I.

Preliminary observations—Exposition of the theories of philosophers—Explanation of the agency of the mind—Close analogy of the nervous and electric fluids—Effects of atmospheric electricity on the human system—Distress of mind the cause of cancer—Opinions of Sir Astley Cooper and Sir B. Brodie—Nervous affections—Illustration of their action—Hysteria—Gout—Theory of gout—Temperament—Influence of the sanguine temperament—Anecdotes illustrative of the fatal power of the mind—Hope—its action—Hypochondriasis—Theory of dyspepsia, and its operations on the temper and disposition—Instances of uncontrolled anger—John Hunter.

MR. PRESIDENT AND GENTLEMEN,—In entering on the office of Lumleian lecturer, which I have the honour of holding, and in offering the product of my humble experience to so learned a body, some little allowance will, I trust, be made for the many imperfections which I am but too well aware are inseparable from my position. The science of medicine has, within the last few years, advanced with strides so rapid, and improvements so unquestionable—whilst treatises so luminous and voluminous, in every department of science, have been launched so liberally from the press—that the selection of a subject for a lecture is as difficult as the prospect of throwing new light upon it is comparatively hopeless. An expansive veil of obscurity, nevertheless, still shrouds the arcana of nature and of disease; and many are the objects which neither the mental acumen of man, nor the telescope of time, will probably be ever able to explain. We witness disease in myriad forms and varieties, and are hourly invoked to obviate its ravages; and we succeed: we employ the remedies which science has supplied, and experience has attuned to their complicated operations: we snatch, in numberless instances, the sufferer from an untimely grave; or, if we fail in averting a fatal termination,—

> "Make languor smile, and smooth the bed of death."

Not entirely discouraged, therefore, by the difficulties with which it is encompassed, I have selected for my subject, in the performance of the duties which are assigned me, *The Reciprocal Agencies of Mind and Matter;* and, inasmuch as no part or portion of the body is exempt from mental operations, and, on the other hand, the functions of the mind are either impaired or obliterated by diseases of the Encephalon, a most extensive and interesting field is open before us. Such, indeed, is the varying intensity with which the mind operates directly or indirectly on our corporeal structure, that at one time it prostrates, and in a moment extinguishes every manifestation of life—at another, it paralyzes, or only partially destroys it: or it lays the lamentable foundation of protracted and incurable disease. Knowing, as we do, that the Brain is the seat of the acknowledged superiority of man over the whole of animated existence—the fountain from the which our every passion and our every feeling flows—the abode of consciousness—the throne of intellect—of reason—of memory—of judgment—in a word, of every manifestation of the human mind—it becomes our duty to study its material conditions in connection with disease, as well as to trace out and observe the mental phenomena dependent on its impairment. It is not my intention, however, to wander into the mystical labyrinth of metaphysical inquiry, nor to subject myself to the animadversions of theologians by advancing doctrines to which any objection can be raised. A broad margin exists between the *Animus* and the *Anima.* The workings of the one (inasmuch as they are connected with, or dependent on the brain and nervous system) come legitimately within the province of the physician, and may fairly be discussed without entrenching on the object of the care and cure of the divine; and far be it from me to invade his holy mission, or trespass on the boundary of his pious office! Undisputed as it is by men endowed with reasoning faculties, and not afraid to exercise them, that the brain is the material organ of the mind—established as the proposition is by positive, and strengthened as it is by negative reasoning—we have *no choice* but to believe it: hourly evidence demonstrates it; and, to shrink from the contemplation of its workings, or to reject the fact itself, is to mistrust the wisdom and deny the Omnipotence of Him who created and endowed it! Not that the identity of mind and matter is hence to be inferred — the "*πνευματα*" of Galen are as distinct from the brain itself as the *πνευματα*, or atmospheric gales, which elicit sound from the Œolian harp, are distinct from the harp itself. "The wind bloweth where it listeth, and no man can tell whence it cometh, or whither it goeth." Should the brain be disordered, as is evinced in the delirium of fever, or should its structure be impaired, as in cases of insanity, the healthy action of the mind is impaired or obliterated also; and, should the harp be out of order, or its strings be out of tune, its music is discordant, its melody destroyed, or no sound whatever can be elicited from it. The brain being the seat of consciousness and of perception, objects act upon it, exciting different emotions and sensations, which are conveyed, through the medium of the nerves, to different organs of the body—to the glands, for example, whereby the secretions are instantly affected. What, in common parlance, is the "mouth watering," but the sight and anticipation of a savoury morsel acting through the brain and nerves on the salivary glands, augmenting their secretion, and otherwise preparing the digestive apparatus for the exercise of its function? What are tears, but the liquid essence of grief or joy emanating from the action of the mind on the lachrymal glands, under the influence of mental emotion? What is the palpitation of the heart and tremor of the muscles, in cases of sudden and strong excitement, but the action of the mind on the muscular fibre, and consequently on the circulating system, through the medium of the nerves? And so on with other functions of the animal economy which it is unnecessary to enumerate. That these effects *are* produced, and these sensations generated, is known by daily and hourly experience to every one; but to demonstrate *how* it is effected, "*Hic labor, hoc opus.*" The subject, at all events, has given birth to many shrewd conjectures—to many ingenious theories—to great varieties of opinion, and to much profound reasoning amongst philosophers, from the time of Hippocrates to the present day. Haller, who has examined these respective theories most minutely, leans to the opinion that the *modus operandi* of the nerves is by means of a most subtle fluid permeating their cavities, and to which the name of "*Spirit*" was given. This is, in fact, the "*Arachæus*" of Van Helmont, the "*Anima*" of Stahl, the "*Πνευμα*" of Galen, the "*Materia Vitæ diffusa*" of Hunter, the "*Vital principle*" or "*Subtle essence*" of others, all of which are, in fact, synonymous. Hunter conceived that this mobile, invisible spirit, was superadded to inert matter, as magnetism is to iron, and put in motion other bodies which are evident to the senses; that it is consequently analogous to electricity and magnetism, though not identical, and is so beautifully described in the 6th Æneid of Virgil.

As to the "vibrations and vibratiuncles" of Hartley, whether of an elastic ether, or of the infinitesimal particles of the brain and nerves, "there *may* be such things" (as Dr. Reid says), "for what we know, and men may rationally inquire whether they can find any evidence of their existence; but, while we have no proof of their existence, to apply them to the solution of phenomena, and to build a system upon them, is what I conceive we call building a castle in the air." It is true that Sir Isaac Newton formed a conjecture of this nature, an authority which would seem to give it a firmer foundation; but he admitted also that it was not established by proof, though it was entitled to be examined by experiments. Hartley, however, referred all our sensations and ideas—in a word, all the operations of our minds,—to this theory of Vibration—a theory which is opposed and ridiculed by Stewart, Reid, and Drummond. Descartes has attempted almost to demonstrate how, by the animal spirits going and returning in the nerves, muscular motion, perception, memory, and imagination are effected. Some anatomists reject these ideas on the assertion that the nerves are not tubular! Others assert that they are! Le Gallois believed that there is a secretion in the nerves by which their power is transmitted, and through which medium the brain and spinal marrow exercise their action throughout the body. Then, again, there is a sect of *Idealists*, of which Bishop Berkelely and Hume were the leaders: Berkeley, indeed, so warmly embraced his vapid theory of ideas and perceptions, as to reject the very existence of matter altogether! But, as Lord Byron observed,—

> "When Bishop Berkeley said 'There was no matter,'
> And proved it,—'twas no matter what he said!"

The only other theory which I shall adduce, and that to which, in my opinion, the greatest plausibility attaches, is that the nervous influence depends mainly on some modification of galvanism and electricity; and it is an equally curious and corroborative fact, that substances which conduct electricity are also conductors of the nervous fluid, and *vice versâ*. A strong instance of animal electricity presents itself in the Gymnotus, or electrical eel, which it is sufficient that I should name, without detailing its well-known properties.

This is a favourite hypothesis with many able physiologists, as well as with myself, and a close comparison of their agencies substantiates the closeness of their analogy. The experiments instituted by Dr. Wilson Philip, of dividing the nerves supplying the stomach and respiratory organs, and then substituting their suspended functions by a stream of galvanism, still further confirm the doctrine, and so vividly illustrate its probability, as to place all others comparatively in the shade. The nerves are, in short, the electric wires by which the brain telegraphs its workings to different glandular stations, or issues its commands to the muscles of volition! If those wires are severed, the telegraph works in vain; if those nerves are divided, the operations of the mind on the respective organismus are annihilated also. Dr. Philip, after detailing his experiments, asks—"Is it possible to explain the result of these experiments without admitting the identity of the nervous fluid and galvanism? We must either admit this, or that there is another power capable of performing the most characteristic and complicated functions of the nervous system." Dr. Cooke favours the same opinion. Mr. Walker, in his work on Philosophy, says—"If a person stand on the electric stool with glass feet, and touch the prime conductor for a few minutes while the machine is working, his pulse will be greatly accelerated; and if bled in that situation, the blood will be projected a considerable distance,—showing that electricity stimulates the motion of the heart, and increases the motion of fluids. Can any doubt remain" (he asks) "that this wonderful agent is a prime instrument in muscular motion?" The perpetual variations of our feelings and spirits, without any assignable cause, are, I have no doubt, frequently produced by the varying proportions of electricity in the atmosphere, exerting an influence on the brain and nerves through the medium of our respiratory organs; and it is highly probable that the vital energy common to all animals and vegetables is dependent on the agency of electricity, though perhaps not identical with it. Mr. Smee, in his Treatise on Instinct and Reason, says—"A gentleman who has much to do with various persons as an agent, assured me that the weather much influenced the action of people, and to such an extent was he practically acquainted with it, that he never went out to canvass on a dark and gloomy day; but when the sun shines, and the sky is bright, people feel happy within themselves, and then he can do business with them!" (p. 250).

In damp and hazy weather, when electricity is carried off from our bodies by humidity, our spirits become languid, and our sensibility less acute—the nerves lose their tension and elasticity; whereas, on high mountains, spontaneous flashes have been seen to be darted from the fingers, the body containing more than the surrounding rarefied and conducting air.

I am corroborated in this my opinion also by Dr. Holland, who says—"Little though its influence has yet been defined, I believe that the electrical state of the atmosphere is that of all its conditions which has most important and diffused effects on the animal economy, more rapid and pervading than any other, and (as one of the vital stimuli), more intimately allied to the functions of the nervous system" (Notes and Reflections, p. 485). It is difficult to advert to the effects of atmospheric electricity on the body without noticing the question whether this great natural agent is not of itself directly engaged in the functions of the nervous system. It is obvious that changes of atmospheric electricity have much influence on the sensations and voluntary powers, producing results variously analogous to those which attend certain morbid states of body more familiar to us. An atmosphere highly charged with electricity produces alternations of chill and warmth on the skin, and many indescribable sensations; sometimes feelings of a rheumatic character in the muscles, tingling and itching of the sentient extremities of the nerves; and a thunder-cloud is frequently productive of headache, or other cerebral affections. All this demonstrates the influence of electricity on the animal economy.

But, to return from this digression.

If the mind possesses, through the medium of the brain and nerves, such an immense and powerful influence on the subordinate corporeal organization as to enable man, under the excitement of mental emotion, to perform the astounding feats, and accomplish the Herculean labours which we continually witness or read, it can easily be understood that it can also impair or totally subvert the frail and delicate elements of which our corporeal frame is composed. Thus it happens that by its stimulus to the circulating system, the action of the heart and arteries is impelled at times beyond their powers of endurance; and a vessel bursting on the brain, a fatal apoplexy suddenly ensues, or a lingering paralysis is entailed for probably a melancholy series of years. The body succumbs to the sovereign influence of the mind; and the hero, whose "very name struck terror to the foe," is at once reduced to a state of helpless impotence.

In others, where, through misfortune or through grief, the spirits, once so buoyant, are utterly dejected and depressed, the canker-worm of care, with slow and insidious progress, eats into some less vital organ, and, altering its structure, and vitiating its faculties, gradually undermines the fabric of the constitution, and establishes a painful, an incurable, and ultimately a fatal disease.

During the few years in which I formerly practised in London, whilst engaged one morning in conversation with the late Sir Astley Cooper in his study, a patient was announced who had come from Norfolk for that justly eminent surgeon's opinion and advice. His keen and practised eye at once discerned the malady; and before he put a question to the elderly and melancholy object that had entered the room, Sir Astley asked me if I could name his disease? I admitted my inability beyond that of a constitution thoroughly impaired; on which Sir Astley said that he was much mistaken if the poor man was not suffering from carcinoma of the rectum, and that probably his mind was ill at ease. On examining the patient the accuracy of his diagnosis was most fully confirmed. He then observed how frequently that disease ensued on mental distress.

The disease is, however, by no means confined to the rectum. The female breast and the uterus are particularly subject to scirrhus from the same cause.

"I should have observed," says Sir Astley Cooper in his lectures, when speaking of the causes of this disease, "that one of the most frequent is grief or anxiety of mind. It arrests the progress of secretion, produces irritative fever, and becomes the forerunner of scirrhous tubercle. How often have I found (he continues), when a mother has been watching, night after night, with anxious solicitude, the pangs and sufferings of her child, and has had the comfort and gratification of seeing its recovery, that in a short time after this she has come to me with an uneasiness of the breast, which on examination I have discovered to be scirrhous tubercle. Full three-fourths of these cases arise from grief and anxiety of mind. It is the state of mind and body which predisposes to this disease. The mind acts on the body, the secretions are arrested, and the result is the formation of scirrhus. Look, then, in this complaint, not only at altering the state of the constitution, but *relieve the mind*, and remove, if possible, the anxiety under which the patient labours."

Most surgeons, I believe, concur in this opinion. Some, however, consider that there must be an hereditary or constitutional predisposition to the disease. Others, that it belongs especially to maidens, or to women who have never borne children. Its visitations, however, occur indiscriminately; and where the exciting cause is sufficiently strong to generate the disease at once in a diathesis favourable to it, a similar result, though more remote, may ensue where it may not be expected. Leaving, however, the subject of cancer (which, it must be admitted, is a strong illustration of the morbid consequence of mental sorrow), yet still adhering to the depression of spirits as a fertile source of bodily suffering, we embark at once on the wide ocean of Nervous Diseases.

Here again the softer and more susceptible sex are, as it is well known, the peculiar victims; for their sensibilities being more refined—their habits (especially in the aristocratic circle of society) far more sedentary—whilst their minds are less briskly engaged,—the influence of nervous irritability is more intensely felt, and more permanently engrafted, than in man. Their passions, moreover, being as strong, or perhaps stronger than in man, but covered by that mantle of concealment which Nature, hand in hand with feminine modesty, throws over them, the inward fire keeps slowly smouldering on, and secretly consuming the frail tenement in which it lies imbedded—they become the prey of grief and disappointment; robbing them of

> "Tired Nature's sweet restorer, balmy sleep"

—destroying their appetite for food, and their enjoyment of pleasure—absorbing their every thought—disturbing their secretions—and thus undermining their general health, and, perhaps, ultimately sapping even the citadel of Reason itself! So Virgil, speaking of Dido, says:—

> "At Regina gravi jamdudum saucia curâ
> Vulnus alit venis, et cæco carpitur igne
> Multa viri virtus animo, multusque recursat
> Gentis honos—hærent infixi pectore vultus,
> Verbaque—nec placidam membris dat cura
> quietem."

Hence arises Hysteria in its myriad fantastic shapes, acting on and agitating different parts, and simulating sundry structural affections so insidiously as to endanger the diagnosis even of experienced physicians. The irritable breast described by Sir Astley Cooper, the hysterical joint and other local affections, delineated so well by Sir B. Brodie, are striking illustrations of it: and it is distressing to think and to know that even limbs have been amputated, and painful operations performed, under an erroneous and simulated impression of the existence of organic disease. To quote the latter talented surgeon's (Sir Benjamin Brodie) own words:—"I do not hesitate to declare that among the higher classes of society at least four-fifths of the female patients who are commonly supposed to labour under diseases of the joints, labour under hysteria, and nothing else" (Lectures, p. 37.) These diseases occur in persons of an irritable disposition and nervous temperament, in whom there is excessive excitability, accompanied with diminished power. The catamenia are almost always irregular, and generally deficient; and this whole class of disease is, probably, in the majority of instances, the reverberations of disappointed Nature on the nervous system. The mind acting on the body through the great sympathetic nerve, affects different parts and different structures, varying in intensity, in form, and in duration, in proportion to the varying sensibilities of its victims. Hence the extensive catalogue of what are designated *hysteric* affections, deriving their name (as the etymology indicates) from that focus of excitement to which my theory alludes. "Sed nec spectabilior est hujus morbi frequentia," says Sydenham, "quam varietas illa multiformis, qua se ostendit, et nullos ferè non emulatur ex iis affectibus quibus atteruntur miseri mortales. Quamcunque enim corporis partem insederit, symptomata (qualia ei competunt parti) statim producit, et nisi medicus tam sagaci quâdam solertiâ et δεινοτητι quam in arte peritia valeat, fraus ei fiet, atque ista symptomata à morbo aliquo essentiali hujus vel illius partis, non verò ab affectione hystericâ, pendere arbitrabitur."

Though corroborating my purpose, it would consume an unnecessary portion of time were I to adduce all the extraordinary and protean forms in which hysteria manifests itself. Suffice it to say, that, contingent as the malady is on persons of high nervous excitability, attended with diminished power, it is best obviated by that class of medicine, and met by that line of treatment, which calms the one and renovates the other; and the medicines and treatment must be adapted to the particular form in which it presents itself, and to the individual circumstances of the person so affected.

Albeit, however, the female sex is more especially the subject of this disease, the etymology of which, as I just observed, would clearly *confine* it to WOMAN, many are the instances in which men are also visited by it, inasmuch as it is an affection of the nervous, as well as of the uterine system. "Quinimo," as that patriarch of medicine just quoted observes, "non pauci ex iis *viris* qui vitam degentes solitariam, chartis solent impallescere eodem morbo tentantur." Another proof, though a negative one, of its *nervous* origin, is presented in the fact, that, however acute may have been the local pain, dissection casts no light on its pathology, the seat of all the suffering evincing, in a large majority of instances, no discernible cause of its intensity, whilst the whole class of tonic remedies which would aggravate the mimic inflammation, were it otherwise than visionary, is that which experience establishes as the most conducive to relief, the disease being dependent, in fact, on loss of tone, with excess of nervous susceptibility.

It would be a culpable omission, in speaking of the influence of the mind as a cause of disease, were I not to make a brief allusion, also, to that aristocratic visitation termed the Gout. We know that, independently of hereditary disposition, its *seminium* is in the stomach—that its agency is conveyed by the blood to the organs which it principally invades, and that excesses of an Epicurean character will produce and mostly generate a paroxysm. It cannot, however, be denied that all powerful mental emotions, though opposite in their nature, will generate it also in a gouty subject, and that a fit of anger is a notoriously frequent exciting cause. The passions may either occasion an attack or cause its retrocession, or give birth to some irregular or misplaced action; and the suddenness of metastasis proves that the inflammatory type is one "*sui generis*," and deviating from the nature of inflammation in its ordinary form. If, as I have before observed, and as must be universally admitted, the influence of the mind will alter the secretions, there is no reason why the stomach and its office of digestion should be exempted. We know that the sudden announcement of bad news will at once take away the appetite;—and why? The shock vibrates to the various parts of the body, through the medium of the nervous and circulating systems; the nervous energy is thereby partially paralyzed; the function of digestion is consequently deranged, and a paroxysm of gout is at once generated, where the predisposition exists.

Weakness of the remote nervous ramifications will necessarily influence the secretions of the parts which they supply; and when, as in gouty subjects, the blood abounds with excrementitious matters, the exhaled and secreted fluids possess preternatural or morbific properties, which affect the sensibility of the extreme nerves, and irritate the tissues in which they are deposited. The electric rapidity with which *Metastasis* occurs can only be explained by reference to the organic nervous system, in co-operation with the arterial; the *materies morbi* being vested in the peculiar state of the blood. Now, if we contemplate the intimate connection which subsists through its medium, we can easily comprehend the transference of sensibility from one part to another. The tone, however, if not the structure of a part having been impaired by previous attacks, renders that part constantly liable to a fresh invasion; or it may visit other organs, according to the several causes which prevail, or the vascular conditions which at the time may happen to be in existence in those organs.

In consequence of frequent and severe attacks the structure of the minute vessels subsequently becomes altered, and the lithic lava of gout is at length deposited in the form of tophi or chalk stones.

Temperament is frequently connected with the progress of disease. There can be no doubt that the irritable temperament —*i. e.*, the sanguine, is more peculiarly under the influence of casual injury and of disease, and that an accident which in others would yield to the *vis medicatrix naturæ*, is frequently followed up in such subjects by serious constitutional disturbance. This temperament, wherein, as Hunter shrewdly observes, there is an "over-action to the strength of the parts," is characterized by extraordinary vivacity of the nervous and vascular systems. Tremblingly alive to the slightest impressions, the sensibility of such persons is more acute; and I am firmly of opinion that they suffer infinitely more pain under surgical operations, as well as more grief under mental affliction, than others who are not thus endowed. The mind is susceptible of greater emotions—their feelings are less under control—they float more buoyantly on the surface of hope, or they sink more deeply beneath the depths of despondency. They are more liable to tetanus after an operation, and their recovery is more uncertain and protracted. Raving madness belongs more particularly (according to the observations of Esquirol, and many others) to the sanguine temperament, whilst the melancholic is most prone to Monomania and depression of spirits: nor is death an unfrequent consequence of this excess of their morbid sensibility. The body in such subjects is the slave of its tyrant empress, and life itself succumbs to her dominion. Such persons have been known to expire suddenly during the steps preliminary to a surgical operation. A striking instance of the fatal agency of the mind is recorded of a man who, under the bloodthirsty Robespierre, was condemned to be guillotined: by some accident the knife was arrested in its descent, and on removing the victim for the purpose of adjusting the fatal apparatus, life was found to be extinct: the mind had anticipated the executioner, and performed his office.

Another instance, which I believe is well authenticated, is presented in the case of three criminals on the Continent, who were condemned to die, and were only reprieved for the advancement of science, and given over accordingly to the tender mercies of surgeons, as the subjects of experiment. These professors informed them, that though the sentence of death was immutable, yet under the circumstances they should suffer little or no pain in its execution, which it was decreed should be carried out by the gradual loss of blood. Their eyes being bandaged, a slight puncture was then made in each of their arms, and a small stream of warm water was poured continuously over the arm; thus giving them the entire conviction that their blood was flowing into the pail beneath. After this had been carried on a reasonable time, it was found that two out of the three had ceased to live! The fatal influence at other times, though equally effective, is more distant.

A surgeon in Essex, with whom I was well acquainted, rode several miles on horseback, early in October some years ago, to consult my father. He was about forty-five years of age, and not only appeared to be, but admitted that he was, in good bodily health; yet a conviction had impressed him that he should not survive the ensuing February. It was in vain that my father endeavoured to reason him out of it, and urged him to follow his favourite amusement of fox-hunting through the approaching season. He did so; but "death on the pale horse" overtook him, and realised his unalterable apprehension. A patient who despairs of recovery is certainly in greater danger than he who is convinced of his convalescence; and the vista of disease is dark and dreary in which the taper of hope has been utterly extinguished. The physician, therefore, who by his countenance or by his manner can inspire it, has gained an unquestionable advantage in the work of his vocation. The patient, especially if of a nervous temperament, studies his every turn of countenance—weighs his every word—and the thermometer of his feelings rises or falls accordingly. The mind becomes enlisted in the service, and by its influence on matter dispels the peccant humours that oppress it. It becomes the duty therefore of the physician to infuse consolation, and to inspire hope, wherever he can do so without confiscating truth; for

> "Sunt verba et voces quibus hunc lenire adoloem
> Possis, et magnam morbi deponere partem."

And here, though the language of poetry may by some be deemed inconsistent with the graver matter of a medical lecture, I cannot forego the quotation of lines so beautifully illustrative of the *powers* as well as of the "*pleasures* of hope," as—

> "Go, seek the dismal chamber, where disease
> Reclines with wasted form and pallid hue;
> Where through the half-closed shutter sadly creeps
> A feeble ray that scarce a twilight sheds;
> Whilst all around distressing signs appear
> Of fruitless remedies! Mark, then, how sweet
> To lift the eye of *Hope* upon a friend!
> To feel upon the fluttering pulse the grasp
> Of one beloved—it beats with firmer force—
> The languid eye beams momentary joy;
> And sickness, cheated by the smiling scene,
> Awhile forgets her pain inflicting task!"

It is the despair of relief that too often impels the sufferer to fly into the arms of death in order to

> "Whirl him, happy riddance, from himself."

This arises most frequently from exaggerated nervous irritation, as in the higher grades of hypochondriasis resulting from both physical and moral causes, and acting with awful severity on the brain through the nerves of the digestive apparatus. In aggravated cases of dyspepsia, where the mucous membrane of the stomach and intestinal tube is disordered, the mind becomes impaired: hope is abandoned: reason is overthrown, or rather, in such cases, as Lord Erskine observed—"Reason is not *driven from her seat*, but distraction sits down upon it along with her, and holds her trembling upon it, and frightens her from her propriety." The delusions of fancy, of disordered imagination, and morbid sensibility, flit around their victim, and terrify him. The sympathetic palpitation of the heart is misconstrued into organic disease; the little nervous or hepatic cough is converted by the imagination into pulmonary phthisis; or the occasional giddiness, confusion, pain, heat, or other anomalous sensations in the head, engender an apprehension of apoplexy, paralysis, or derangement. Sometimes the sufferer avoids society from having lost all pleasure in it; or, if some pitying relative or friend should endeavour to engage him in conversation, he is unable to enter upon it, and swerves perpetually from the subject to describe his feelings, and seek their explanation. Consolation is refused; or the abortive effort to lighten his despondency by making light of his complaints is twisted into raillery, and perverted into unkindness. Tortured by hypochondriasis, and frightened by the ghosts of fancied ills, he flies from one physician to another for advice; or, beguiled by the *ignis fatuus* of empirical puffs and base and baseless promises of cure, he becomes the dupe of quackery and the martyr of imposture. Here there is frequently a reciprocated agency of mind and body; the unremitting nightmare of the mind impairs the secretions and digestion, and the irritability of the nerves and mucous membrane (aggravated perhaps by the drastic purgatives with which he has injudiciously beeen tortured), has added fresh irritation to the material organ of the mind. It is astonishing to observe how constantly the temper is affected by this malady. A friend and connection of mine, a most amiable man in all the domestic relations of life, and a pattern of piety, became so irascible under its influence, that he would sit before the fire and kick the fender, till he nearly destroyed it; swearing violently on the slightest provocation, and (to use his own words), "longing for a sword that he might cut any one to pieces that came in his way."

It is on the same principle that the drunkard is almost invariably irritable and morose; and a similar effect frequently ensues after a full meal, or on eating indigestible articles of food. The irritation of the gastro-intestinal nerves is communicated to the brain; the temper manifests the stimulus; perception is less acute, and the mental faculties are tarnished and oppressed: hence the valuable Roman maxim, "*Impransi disquirite!*" is evidently founded on observation and good sense.

Notwithstanding, the entire derangement of both the bodily and mental functions in this disease, Anatomy has thrown no light on its pathology. Villermay maintains that the primary seat is in the stomach, and that the disease consists in a morbid state and an excess of organic sensibility of the nervous system, which is reflected sympathetically on different organs. Broussais refers it to the coats of the stomach, and a chronic inflammation of its mucous membrane. M. Georget, on the other hand, refers all the phenomena to the brain, and supports his theory with most plausible arguments. Certainly, when the cause in different cases is closely studied, it would appear that sometimes the disease is manifested primarily in the brain, and at others, in the digestive functions; each theory has its respective merits. "*Et vitulâ, tu dignus, et hic!*" Be this as it may, the stomach in either case is affected. The hypochondriac, however, must not only abstain from those ingesta which augment this irritability, but must also exercise some moral restraint, and do his utmost to curb the first impulse of temper, by the aid of his reason and religion, as well as by abstinence. Many, after their nervous energy is exhausted, resort to fresh stimulus and to narcotics, and with temporary relief; but the irritability is mostly exasperated by such measures after the soothing effects have passed away; and both insanity and suicide have been the ultimate result.

Want of proper restraint during infancy and childhood lays the foundation of irritability of temper in numberless instances, and affords a lamentable illustration of the mind's dominion. That irritability swells into incontrollable passion, which grows with their growth, and strengthens with their strength, till the mind assumes an unhealthy condition, and runs away with the reason, because reason becomes insensible to its curb. Cerebral excitement at last induces cerebral disease; the membranes become vascular, and subsequently thickened, and the reiterated moral is converted into a permanent physical cause of mental derangement.

Abundant instances might be adduced of sudden death from the vehemence of anger, as well as of its devastating effects on the organismus of our bodily frame. Amongst the former may be enumerated the celebrated John Hunter—dying in St. George's Hospital, from the irritation consequent on opposition to one of his motions at the weekly Board of its Governors! Cheyne, Bonetus, and other authors give similar instances. The secretion of bile is unquestionably deteriorated by the operations of the mind; its blackened inspissation, combined with depression of spirits, has supplied the appropriate cognomen of melancholia. This is corroborated, moreover, by the relief that it derived from mercury, and its specific action on the liver, as well as the relief given to the irritated gastro-intestinal nerves by carrying off the acrid secretion by mild and cooling purgatives: and hence Lord Byron declared that an ounce of salts exhilarated him more than a bottle of champagne! Since, however, both mind and body suffer in hypochondriacs, both demand our attention. Where the disease is traceable to hard study, close confinement, &c.—which so frequently happens—it is evident that both must be discontinued; and where (as in Broussais' theory) there is evidence of "gastro-enterite," the antiphlogistic plan must be adopted in the first instance, and the tone of the stomach subsequently repaired by that regimen and those medicines which experience has established as most efficacious, but which it is superfluous that I should here enumerate.

ON THE USE OF COD-LIVER OIL IN THE TREATMENT OF PHTHISIS. BY DR. LEWICK.

Exaggerated impressions of the value of cod-liver oil have no doubt been made, to be followed by their necessary disappointments. All the results promised by some writers from it have certainly not followed its use in the hospital, nor in a large number of cases in private practice, which, through the kindness of his medical friends, the writer has had an opportunity of closely watching. On the other hand, we can positively say that most of our patients, while using the oil, have increased in flesh, in weight, and in strength; that with most of them there has been a diminution of cough and of expectoration; that with some of them hectic and rigors have entirely disappeared; and that there have been some so benefited as to be able to resume their former occupations. We can also understand that it may so strengthen the patient as to enable him to make use of those hygienic means which are so efficacious; that it may thus, perhaps, indirectly cure consumption. Again, in phthisis, as the local affection is but a part of the disease, if the general health continue to improve, we may hope the diathesis will be, in the course of time, thoroughly changed, and thus, perhaps, cod-liver oil may cure consumption. But these suppositions are merely such; the assertion of its good, but limited, effects are positive. The first may happen, the last have happened.

An objection has recently been made to the use of cod-liver oil that it produces pulmonary congestion and hemorrhage. This is a plausible suggestion; we have not found it to exist in practice. The only instance in which an attack of bleeding could be positively traced to the use of the oil was that of a patient admitted for hæmoptysis, who, after having been in the house for several weeks, with great improvement of his hemorrhagic symptoms, was placed on the use of the oil from some suspicious physical signs. Nausea and emesis were produced by the oil, and hemorrhage followed the act of vomiting. This may suggest a caution under similar circumstances.

In no instance did any decided benefit arise from the oil until it had been used for at least *four weeks;* it is equally important to observe, that, to be of any permanent benefit, its use must be persisted in for a long time, even after the most striking symptoms of the disease have in a great measure disappeared; a fact of which we have always endeavoured to impress the importance on our patients at the time of their dismissal from the hospital.

Although, then, our experience has not been quite so gratifying as has that of some others, yet the writer is fully prepared to say that he believes cod-liver oil to be by far the best remedy for phthisis pulmonalis of which we have at this time any knowledge; and that to neglect its use in cases of this disease, unless there be a strong contra-indication, is, under existing circumstances, both injudicious and culpable.—*Amer. Jour. Med. Sc.*

Original Communications.

INFANTILE REMITTENT FEVER,

WITH ESPECIAL REFERENCE TO ITS DIAGNOSIS FROM HYDROCEPHALUS.

For which a Prize of Thirty Guineas was awarded by the South London Medical Society, October, 1849.

By Charles Taylor, M.R.C.S.
Late Surgeon to the Royal South London Dispensary.

Introduction.

In the following essay it has been my endeavour in the first place to give a succinct account of what is known on the subject, and have therefore quoted freely from the published works of the most esteemed authors; and, in the next, have recorded my own opinions, founded on a careful study of those authors, and the results of personal experience and observation.

I had originally appended a table of upwards of one hundred cases of fever in children, derived chiefly from dispensary practice, but have thought it unnecessary to introduce it here. I would merely remark that it served to show the different forms or varieties in which fever may appear in children, some having at the time been termed "simple fever," some, "fever with worms," some, "gastric," some, "acute," others, "chronic remittent fever," others, in which the term "gastric" was superadded to either the word "acute" or "chronic." Some of the chronic cases were noted as ocurring after scarlatina, measles, or small-pox, and it also exemplified the concurrence of fever of different forms in the child, with ordinary continued fever in the adult. The deficiency of illustrative cases I am fully sensible of; it arises from the circumstance that cases of infantile remittent fever are in their commencement regarded as of little danger; and therefore, in short private notes, more particularly in a tabular form, daily symptoms are not recorded, but merely the occurrence of "typhoid," "cerebral," or "chest" symptoms, noted, without particularizing those symptoms. Many other deficiencies also exist in this essay on so extensive a subject, embracing as it does that of fever in general in children; and, indeed, to have approached in any way to a complete treatise would require more extended observation and lengthened investigation than at the time I was able to bestow: the truth of the remark quoted by Sydenham, "multum adhuc restat operæ" is self-evident, but I trust future researches will clear up the differences of opinion on the subject, and tend to reconcile them.

Among the various disorders incidental to children, those of the pyrexial form most frequently come under our notice. They may be divided into—

1st. "The exanthemata;" which, although not peculiar to infancy and childhood, are, nevertheless, more liable to occur in early life.

2d. Those which are termed "inflammatory," and are accompanied by more or less fever in one or other part of their course.

3d. In addition to the foregoing there is still another class, in which "fever" is essentially "the disease," and not merely a symptom indicative of other and more tangible lesion.

In the early age of our art, it appears that many authors were aware of the existence of an affection in children, characterised by fever, to which various appellations were given.

The following are mentioned by Dr. Butter[*] as having described it:—Musgrave, Mercurialis, as "febris synochus puerorum;" Timoens, "febris ardens continua infantum;" Lieutaud, "la fièvre ardente des enfans," "la fièvre lente des enfans;" Sauvages, "hectica infantilis;" Hoffman, "febris lenta infantum," and others, not omitting Sydenham, who has described a chronic form as occurring in children. "Est et symptoma aliud, infantibus permolestum, longe diversum, et a febribus variarum annorum constitutionum, et ab illâ proximâ memoratâ. Est vero hecticæ species, infantes *diu* affligens, quâ infestati *sine insigni aliquo calore* languent, cum appetitûs dejectione, et tam artus, quam corporis truncus ubique emaciantur."[†]

The majority attempted to account for this occurrence of fever in children, by the presence of worms, and hence we find described a "worm fever," by

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[*] Butter's Treatise on Infantile Remittent Fever.

[†] Sydenham, Opera. Sydenham Society edition, p. 506.

Baglivi and Van der Bosch. Sauvages and Hoffman were of this opinion. But as medical science advanced, and facts were more carefully inquired into, it was found that the presence or absence of worms did not alter the character of the disease; and Sir J. Pringle, and Sarcome, remarked that their presence required scarcely any modification in the treatment; while Bianchini in Italy, and De Haen in Germany, pointed out how exaggerated was the influence attributed to them. Prof. Sinclair, of Edinburgh, proved that worms were not always discovered in the so-called "worm fever."[*] Dr William Hunter declared he had searched for them in vain in the bodies of those who were said to have died of such disorders. Musgrave also proved that those affections were less attributable to worms than to the presence of saburræ in the primæ viæ; and Dr. Clarke, of Newcastle, remarks, in his work on Fever, on the impropriety of the term "worm fever," and that anthelmintics will rarely, if ever, cure it.

Such were the opinions of medical men, when, in 1772, the work of Dr. Butter on "Infantile Remittent Fever" appeared, since which time the disease has been written on, or referred to, by many authors on diseases of children; Dr. Butter's description being the chief authority and guide.

Dr. Pemberton,[†] in his work on diseases of the abdominal viscera, follows Dr. Butter's description; and Dr. Sims[‡] has given an account of an epidemic infantile remittent fever which occurred simultaneously with low nervous fever, of a remittent character, in adults. Dr. Cheyne[§] has also given us some good practical remarks on it, especially in reference to its connection with hydrocephalus. Since then, Dr. Milman Coley[‖] has written a separate treatise on the subject: it has also been described, or alluded to, by Drs. Mason Good,[¶] Mackintosh,[**] Sir H. Marsh,[††] Underwood[‡‡] and his commentators; Marshall Hall, Merriman, and H. Davies; Joy,[*] Maunsell,[†] and Evanson; Copland,[‡] Hughes,[§] Golding Bird,[‖] Locock,[¶] West,[**] and Willshire;[††] while, on the Continent, Rilliett and Barthez,[‡‡] and others, have added to our information on the subject.

Whether the disease termed "infantile remittent fever" is referable to the second or third of my divisions, appears to be an undecided question, for, as will be shown, the opinions of authors vary on this point; some considering it an affection symptomatic of irritation and inflammation of the digestive tube, whilst others consider it an idiopathic fever, and identical with continued fever in the adult. At the risk of being thought tedious, I will quote some of these opinions.

As before remarked, in former times the presence of worms in the intestinal canal was considered the chief, if not the only, cause.

Dr. Butter considered it owing "to a weak state of the digestive organs, morbid accumulation in the primæ viæ, and the peculiar irritability and proneness to fever in infancy."

Pemberton also describes it as depending on intestinal irritation.

Joy considers it merely a variety of gastric fever modified by the irritable constitution of infancy, and, in confirmation of his views, draws attention to the symptoms.

Richter considered every fever of a remittent character as more or less gastric; and Selle recognised no other form of remittent fever than gastric and hectic.

Dr. Sims, in his account of an epidemic, says "it attacked those who had derangement of the intestines for a length of time, as picking of the nose, grinding of the teeth," &c.

Dr. Locock terms it, "infantile *gastric* remittent fever," and considers the causes are those which indirectly or directly affect the digestive organs; and remarks that "there is a striking confirmation of the doctrines of Broussais, as to the nature of fever, in the acknowledged cause of this disease . . the most prominent symptoms being referred to the mucous lining of, the stomach and intestines; and a protracted or acute form of fever is the result."[*]

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[*] Cyclopœdia of Practical Medicine, vol. 1. Art. Remittent Fever, Joy.

[†] Pemberton's Practical Treatise on Diseases of Abdominal Viscera.

[‡] J. Sims, Observations on Epidemic Disorders. London. 8vo. P. 163.

[§] Cheyne's Monograph on Hydrocephalus.

[‖] Coley's Treatise on Remittent Fevers of Infants.

[¶] Dr. Mason Good's Study of Medicine.

[**] Mackintosh's Practice of Physic.

[††] Dublin Hospital Reports. vol. iii.

[‡‡] On Diseases of Children, various editions.

[*] Cyclopædia of Practical Medicine, vol. i.

[†] On Diseases of Children.

[‡] Dictionary of Practical Medicine, part iii.

[§] Guy's Hospital Reports, old series.

[‖] Ibid. new series.

[¶] Library of Practical Medicine, art. Infantile Gastric Remittent Fever.

[**] Lectures in Med. Gaz. vi., vii., xxxvii.; and Diseases of Children.

[††] Lectures in Med. Times, 1848.

[‡‡] Traité Pratique des Maladies des Enfans, tom. iii. p. 350, et sequent.

Maunsell and Evanson say—" In classing the infantile remittent fever among disorders of the digestive organs, we declare sufficiently our opinion of its origin and nature. . . . Its characteristic symptoms, if closely analysed, will be found, all of them, to point to the mucous surface as the original seat of morbid action."

Sir H. Marsh says, " the seat is in the villous coat of the intestines."

Mackintosh is of opinion that " it depends on irritation, inflammation, or ulceration of the mucous membrane of the stomach and bowels."

Dr. Coley seems to be of the opinion that it *may* be a symptomatic fever, as he says " it is one of the most frequent terminations of chronic dysentery." " It is frequently the sequel of measles, scarlatina, and other diseases where there has been inflammation of the intestinal mucous membrane." But he considers " the most unfavourable form is from malaria and the effluvia of persons labouring under typhus fever."

Dr. Golding Bird considers there are *two* distinct diseases described under this name, one depending almost entirely on derangement of the functions of the gastro-intestinal tube, the other on more or less of malarious influence, this latter constituting the " true infantile remittent fever; " but that the two frequently coexist.

Rilliett and Barthez, who have investigated the disease as it occurred in the " Hôpital des Enfans," in Paris, and whose observations are founded on 111 cases, regard remittent fever as identical with typhoid fever in the adult, and as intimately connected with inflammation of the intéstines.

Drs. Copland and Willshire affirm " that the digestive disorder itself proceeds from an anterior disorder, which itself proceeds from causes impairing the energy of the nervous system, and of the organs by which this system is more immediately influenced." The latter says, " the same deleterious influences which cause continued fever in the adult will cause remittent fever in children;" while the former, after allowing that improper food and neglect of the bowels have their full share in producing it, says " it arises most frequently from the same causes as produce other periodic fevers, namely, terrestrial exhalations or miasmata; and that less intense or concentrated states of these exhalations than are required to produce either agues or remittents in adults will often cause the latter in children."

Dr. C. West, our most recent author on the subject, follows the opinion of Rilliet and Barthez, and considers it identical with continued fever in the adult. " If," says he, " we look closely to the characters of this disease, and compare them with those of simple continued fever in the adult, there is so close a correspondence as to remove all causes of doubt as to their identity." And he draws a comparison between them in the circumstances of their occurrence, their local complications, and their post-mortem appearances.

Dr. Bateman, in his Reports of the Diseases of London, acknowledges and points out the connection of infantile remittent fever with continued and typhoid fever, and also the different forms or types under which it sometimes appears; for we find in one place his cases are registered under one name, in another place under another name; for instance, they are registered more generally as " Febris infantum;" but in 1803, winter quarter, and in 1811, summer quarter, it is " Febris infantilis remittens; " in 1811, autumn quarter, the cases are termed " Continued fever of a remittent character." It is evident they all refer to the same class of cases. He also alludes to a " slight fever," of short duration, among young people, removed in three or four days; but in a few it continued for three or four weeks, and in one or two instances, without putting on a typhoid appearance, it spread to two, three, or more members of the same family.

Four cases are described by him as " typhus, and occurring in young children, similar to this slight fever at their commencement."[*]

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[*] Since this essay was written, Dr. Churchill's work on the Diseases of Children has appeared. He terms the disease " infantile remittent fever," " worm fever," " gastric fever" (p. 637), thereby showing his opinion; and at p. 648 he is inclined to the opinion that it is a " gastro-enterite," although he afterwards, " in the milder cases, thinks the gastric symptoms as a complication, rather than as being essential to the disease."

In addition to the foregoing opinions, we find that several cases of remittent fever are related as arising from the presence of a foreign body in the intestinal canal. Evanson relates a case produced from a child swallowing a marble; Mackintosh another case, from a mass of undigested food; and Dr. Cotton reports a case[†] where a severe attack of remittent fever occurred, which immediately subsided on the expulsion of a foreign body. These cases would accord with the opinion of those who consider the disease to consist in irritation and inflammation of the digestive tube; as, doubtless, the presence of a foreign body would set up such irritation.

The experience of Dr. Tweedie, however, seems to be at variance with those who consider the two diseases (infantile remittent fever and continued fever in the adult) identical; for of 676 cases of fever in the Fever Hospital, only eighteen were under ten years of age; and he says, "as a general rule, children, and particularly infants, are exempt from the causes of idiopathic fever, the febrile ailments to which they are subject being almost always symptomatic of some local disturbance, as dentition and disorder of the bowels."[‡]

From the preceding somewhat conflicting opinions, it is evident that the several authors have each described a form of febrile disease, as it *especially* has come under their notice; for instance, one (Dr. Locock) has met with the disease chiefly among the children of the more affluent, who are less exposed to the influence of malaria, but, perhaps, more to indulgence in the quantity and quality of food; and hence describes it as mostly occurring at Christmas time, almost always depending on over-feeding, and other direct exciting causes of irritation of the mucous membrane, and "*never* proceeding from the state of the atmosphere, and *never contagious*;" while Butter, who first described it, and the results of his experience from an epidemic in Derbyshire, says "the acute form is epidemic and also contagious." West and Willshire describe it as seen at the Infirmary for Children, in the neighbourhood of which epidemic and endemic causes are rife, and draw a conclusion that it is identical with continued fever.

Hence, and from our own experience, we conclude that fevers, as they occur in children, hitherto classed under the one head of "Infantile Remittent Fever," arise from a diversity of causes, and include several forms of disease; that in all febrile affections in children there is universally a tendency to assume the periodic form; that the remission or periodicity is greater, or more marked, in proportion to their youth; that the remission is more distinct when the disease can be fairly traced to malaria; but that, when it has arisen from direct irritating causes applied to the gastro-intestinal mucous membrane, the remissions are more irregular, and occur in a slight degree several times a day; that in all forms of fever in children, but more especially at certain times, and in certain localities, there is a tendency to gastro-intestinal irritation and inflammation; that this irritation is secondary to the fever when of miasmatic origin, and not, as Broussais taught, as actually giving rise to or constituting the disease itself, but rather as a complication; that when it has arisen from direct irritating causes, it is primary, and the disease is to be considered as idiopathic irritation or inflammation of the intestinal mucous membrane, and not as an idiopathic fever; and, lastly, that true malarial fever is often complicated with, or follows after, gastro-intestinal irritation arising from other causes.

Causes.—Certain hygrometric and thermometric conditions of the atmosphere, as damp and cold, warm and moist weather, and the occurrence of easterly winds, perhaps predispose to an attack of fever;[*] insufficiency of, or bad food; exposure to the weather; change of residence from a country to a town district; residence in badly ventilated or damp localities, or in situations where malaria is constant; the occurrence of continued fever as an epidemic,—may all be considered either as predisposing or exciting causes of fever in children.

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[*] Rep. on Dis. of London, p. 75.

[†] Med. Gaz., June 1848.

[‡] Art. "Fever," Cyc. Pract. Med.

[*] It would be a useful subject of inquiry, from the weekly meteorological observations, to determine the connexion of fever with the state of the weather, in reference to the degree of heat, moisture, electricity, and the prevalence of certain winds: this would, however, have required more time and observation than could be given in the present essay.

According to Dr. Locock, a single large meal of indigestible food may give rise to an acute form of fever; but this, together with the continuance of a long and protracted habit of improper feeding, are rather causes of the true gastric variety.

A form of fever frequently occurs after scarlatina, measles, and other diseases of childhood,—probably from the functions of the skin being interfered with, and the mucous membrane of the intestinal canal being irritated; it is generally of a sub-acute or chronic character, and to be looked upon as an irritative fever; but it is frequently combined with true idiopathic malarial disease.

In one or other of its forms, fever is a disease so universal among children, that sex, constitution, or habit of body, seem to render none averse to it. The gastric and irritative forms occur probably more frequently in strumous children.

Period of life.—The period of life during which this disease occurs may be from the first to the tenth year,—according to Dr. Coley, from the sixth month. Dr. Locock considers it most frequent from the age of two to six years; "that it is not met with in earliest infancy, and many have denied its existence during the period of lactation." On the other hand, Dr. Armstrong,* in 1796, and again in 1808, described a disease during dentition in many respects similar to a gastric remittent fever, "with exacerbations every evening, and muddy stools," which at the public dispensary carried of many young children.

According to Rilliet and Barthez, typhoid (remittent) fever occurs most frequently from nine to fourteen years of age; is less frequent from five to eight, and very unusual in the earlier years of childhood.

Although the greater number of cases may occur from the second or third year to the tenth, yet there are many children under the first year of age, brought up by hand, the subjects of a form of gastric irritation, accompanied by fever, which becomes worse at particular periods, and yet does not amount to enteritis or dysentery, but may be considered as a gastric form of this disorder. So, also, of the malarial form: as the age of the child increases, the disease gradually loses its paroxysmal nature, and those characters which are peculiar to children, and assumes the form of continued fever in the adult.

Dr. West has informed me that he has met with genuine ague under one year of age; and in the report for the year 1847, both remittent and typhus fever are shown to have frequently occurred under that age at the Infirmary for Children.

The annual reports of the Registrar-General also show the occurrence, as well as the fatality, of typhus during the first years of life.

Time of occurrence.—The autumn, and next the spring, is the most frequent time of occurrence of the malarial form of this disease: in fact, when continued fever is prevalent among adults, although, even during the winter months, it is not unfrequent, especially when atmospheric changes are prevalent, and the weather is warm and damp for the time of year.

Locality.—With regard to locality, my practice being chiefly confined to the south of the Thames, I have found it occur mostly in densely populated districts, where stagnant water, in the form of open ditches and drains, was present. This remark applies, however, to the more clearly marked remittent forms, and will include the majority of cases of the acute and typhoid kinds: but where the disease is of a more pure gastric character, and of chronic type, it will be then found not so much to occur at any particular time of year, or under any peculiar condition of atmosphere or situation, as from purely accidental circumstances.

Forms.—In practice we find the cases of infinite variety as to their form, mode of attack, and duration: they may be mild, and lasting but for a few days; acute in form, and short in duration; acute, verging into chronic, or chronic from the commencement; they may assume a typhoid character; they may vary in the degree of gastric disorder; and, lastly, the peculiar assemblage of symptoms, or at least many of them, may exist without the essential accompaniment of fever. True, it is often difficult and an arbitrary distinction to place a case under one or other form until we have seen the course and termination of such case; but few will deny that there are acute, chronic, typhoid, mild, and severe forms of this disease. It has been divided into "acute, slow, and low," by Butter; "acute, chronic, and adynamic," by Copland; "acute and chronic," by Locock and Willshire. Of the "acute" form Dr. Willshire says there are ***many varieties***: of the "chronic" he makes two subdivisions—the simple and typhoid. Dr. West makes two classes of cases—namely, those of a milder and those of a severer form.

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* Dis. of Children.

I have adopted a subdivision into—

1st. The mild or simple form
2d. The acute form.
3d. The chronic form.
4th. The typhoid form.
5th. Apyrexial or malarial disease.

[To be continued.]

CASES IN MIDWIFERY,

WITH REMARKS.

By Thomas Radford, M.D., F.R.C.P.Ed., &c. &c. &c.

Consulting Physician to the Manchester and Salford Lying-in Hospital, &c.

[Continued from page 805.]

Case II.—***Cæsarean Section (successful).***

Before entering on the relation of the following case of successful Cæsarean section, it is proper to state that it has been already twice brought before the profession by Mr. Goodman, with whom I was engaged in it. It was first partially cited in the London Medical Gazette, vol. xxxvi. p. 1506. I took great interest in its result, and kept daily a very circumstantial account, with the intention (having previously obtained Mr. Goodman's full and kind permission) of publishing it with some remarks. In his statement (loc. cit.), he says,—"Considering this case to be one of deep interest to the profession, I have forwarded it to you in its present stage: but when the patient is completely recovered, which there is every reason to expect, Dr. Radford, who has been for many years specially devoted to this branch of the profession, will, on some future occasion, furnish the profession with the more minute details, and at the same time give his own views upon the subject." Afterwards it was inserted in the first volume of "The British Record," with an account of her subsequent pregnancy and abortion. Some discrepancies will be found in the dates mentioned in my statement, and those stated in the Record; but I have no doubt it has arisen solely from mistake. However tedious a detailed account may prove to the reader, I considered its importance fully justified me in giving a full exposition.

Case.—At half-past one o'clock, A.M., Thursday, November 20th, 1845, I visited Mrs. Sankey, Bedford Street, Salford, who was then in labour. I met Mr. John Goodman, from whom I learnt the case was one of extreme distortion of the pelvis, &c. She first felt slight pains about eleven o'clock on Wednesday morning. Sometimes they were stronger, and continued to vary in severity, until about three hours before my arrival, during which time they were uniformly stronger. The membranes ruptured some time in the afternoon, and there was a slight dribbling discharge at intervals, up to time of my first visit. The tongue was clean and moist; her countenance was calm and composed; her bowels had been freely evacuated, and she had regularly passed her urine; she was free from sickness and vomiting: pulse 84 at first, but temporarily rose to 100. Placing my hand on the abdomen, I found the uterus of a spheroidal shape, but less so than I had observed in former cases: it felt firm, and free from pain, when I pressed upon it. The relative position of this organ was now much altered: it hung over, and rested on the pubes; and the fundus projected so much forwards as to actually form its anterior surface. Connected with, and in reference to, the axis of the vagina, it presented the retort form. By a vaginal examination I found the outlet of the pelvis considerably diminished by the close approximation of the rami of the ischii and pubes, which, jutting forward, had nearly destroyed the arch, and leaving in its place only a narrow slit which would barely admit the point of the finger. The tubera ischia were so near as scarcely to allow two fingers to lie in the transverse diameter: the antero-posterior was also much shortened by the great incurvation of the crocyx and lower portion of the sacrum. The cavity was diminished by the several bones which unite in each acetabulum being forced inwards, backwards, and upwards. It was difficult to measure the brim; its figure was tripartite.

This alteration in shape was produced

by the falling down of the promontory of the sacrum and lumbar vertebræ, and by the ischia and pubes being pushed backwards and inwards, and the jutting forwards of the symphysis and rami of the pubes.

The antero-posterior diameter was not more than an inch and a half at its widest part on the right side, and in some parts not an inch. The anterior lobe of the opening was not more than the finger edgeway.

The vagina was moist, and had only its natural temperature; it was free from swelling. The os uteri, or the presentation of the infant, could not be felt.

On returning down stairs to Mr. Goodman, I cordially agreed with him that the Cæsarean section was the only means by which delivery could be performed. I suggested the propriety of having the stethoscope applied to testify whether the infant was alive, as the mother affirmed, and also to ascertain the location of the placenta. At this stage I also requested that Mr. Winterbottom, surgeon, should be invited. A messenger (Mr. S.) was despatched for Mr. Winterbottom, who was desired to bring with him a stethescope. I now remarked on the danger of cutting into and partially separating the placenta during the operation.

Auscultation indicated that this organ was attached to the anterior and right lateral portion of the uterus, and corroborated the statements made by the patient that the infant was alive.

I now raised the fundus uteri, and Mr. Goodman made an incision, from seven to eight inches long, a little to the left of the umbilicus, and divided the integuments, which were extremely thin. A corresponding opening was now made through the uterine tissue, which was about a quarter or a third of an inch in thickness, just bordering on the edge of the placenta. I now passed my hand, and seized one leg of the infant, and extracted it; and when it passed to the head Mr. Goodman assisted its escape through the wound, and afterwards expeditiously extracted the placenta entire. The infant, a girl, was alive. There was very little blood indeed lost, and the uterus contracted and lowered itself to its resting-place.

The intestines and omentum protruded during the operation, but were then restrained, and afterwards replaced and retained in their natural position during the time the ligatures were introduced. I swept my finger round the boundary of the uterus, and through the wound into its cavity, to ascertain if any portion of the viscera had got into it.

The *interrupted suture* was used, and the thin integuments further brought together by strips of adhesive plaster; and over all a bandage just tight enough to give support was applied.

There was a calmness and resignation of mind throughout the whole operation, which indicated an enduring christian spirit. No complaint was made, nor murmur heard; and she expressed herself as happily relieved.

The pulse now beat 92. She had a little gulping; the skin felt warm. Habeat Tr. Opii. ʒij.; in about one or two hours pulse 94; slight retching; and a very trifling oozing of blood was seen on the bandage; her lips were naturally red; respiration 26. Fresh bandage and a compress applied.

At a quarter past nine o'clock, A.M. Tongue clean; countenance natural; respiration 24; about two to three ounces of blood lost; a negative plan recommended—Mist. Acac. ℥j., vel. ʒiss. —ter in die.

Eight o'clock, vespere.—Pulse reduced from 100 to 90. Countenance good; had complained of tightness of the bandage; the belly a little tumefied, but not tender; there is no bleeding. To take Ext. Hyoscyam. gr. x.

Nov. 21st, ten o'clock, A.M.—Had vomited a sour fluid during the night. Pulse 86; countenance natural; tongue clean and smooth; skin cool; lochial discharge natural; bowels not moved; had passed her urine. Ordered an enema as follows:—Spt. Terebinth. R. ʒij.; Ol. Ricini, ℥j.; Vitell. ovi, q. s.; et Aq. Hord.

Half past one o'clock, P.M.—Tongue clean; she has vomited a dark-coloured thick and sour fluid, which in appearance looks like fæces. Enema has not operated; ordered to be repeated: to take barley water.

Nine o'clock, vespere.—Has had no stool; vomiting continues; belly tympanitic. The compress being removed the site of the lower portion of the abdominal wound was tumid, and on raising the plaster the wound itself was seen gaping, and a fold or convolution of intestine had protruded between (in the interstices of) the two ligatures. The bandage and plaster was now entirely removed. An attempt was made to reduce the bowel, and the edges of the wound well adapted, and fresh straps of plaster, and a three-tailed bandage, applied. Ordered, at her request, Ol. Ricini, f℥ss.: to be repeated if necessary.

22nd, nine o'clock, A.M.—Had some sleep; pulse 100; had vomited the oil, and also some of the same fluid; tongue clean; belly less swelled, but slightly sore; there is a considerable bloody serous discharge from the wound; has passed urine; lochial discharge; has had no stool. To take calomel, gr. v.; a quantity of gruel to be thrown up with the œsophagus tube passed high up towards the sigmoid flexure of the colon.

Seven o'clock, vespere.—Has slept several times; pulse 90 to 95; feels better; skin cool; vomiting ceased; belly less swelled and easy: another enema had been administered, but it procured no stool. Ordered Calomel gr. v.; Sacch. Alb. gr.v. s. s.—℞ Magnes. Sulph. ʒvj.; Magnes. Calcinat, ʒij.; Tr. Cardam. Comp. ʒj.; Aq. Cinnam. ℥iij.: Cochl. larg. j. 3tiis horis. Repr. dos. anod. noct.

23rd, ten o'clock, A.M.—She had slept; pulse 90; tongue clean; had vomited only once a light-coloured fluid; bowels opened four times; skin warm and perspiring; very slight abdominal uneasiness.

Five o'clock, vespere.—Had visited her before, and found her going on well: a considerable serous discharge from the wound; had not vomited; has had three stools; passed urine; has had several sleeps: to continue Mist. Acac. et cætera.

24th, ten o'clock, A.M.—Pulse 95; tongue clean, but redder in the centre; has very little abdominal pain on pressure; bowels purged two or three times; has passed urine; says she feels weak. —Pergat. To take beef tea.

Half past seven o'clock, vespere.—Pulse 100; tongue clean, but sore; belly less tumefied, and bears pressure; a considerable bloody serous discharge from the wound; had been twice purged, attended with griping pain.—Pergat. Medicine; also to take half an ounce of the following mixture if the diarrhœa continues, and also to take one pill.—℞ Cretæ, ʒj.; Mist. Acac. ℥iss.; Aq. Dist. ℥j.; Tinct. Opii, ʒj.; M. ft.—℞ Opii, gr. ss.; Conf. Arom. h. s. s.

Nov. 25th, ten o'clock, A.M.—Pulse 94; tongue clean; had slept; lochial discharge natural; had passed urine; bowels not again moved; gentle respiration; belly easy.—Pergat. Ordered chicken broth.

Four, half-past, P.M.—Pulse 85; symptoms all favourable; has a cough: taken freely of chicken broth and beef tea.—Ext. Hyoscyam. gr. x. h. s. ℞ Mist. Acaciæ, ℥ij.; Tr. Camph. Co. ʒiij; Syrup. Rhœad. ℥ss. M. ft. Tinct. cujus cap. Cochl. ♏j. sub urgent. tuss.

26th, ten o'clock, A.M.—Pulse 95; tongue clean; skin a little hotter; bowels unmoved and tympanitic; had passed urine; her countenance a little more anxious. The bandage and plaster were removed; the ligatures were detached from their hold; the integuments expanded to such a degree as to present a large surface of the bowels, which were uniformly covered with limph; the incised edges were firmly agglutinated to the contiguous parts; attempts were made to bring the integumental edges nearer together, and the bowels were gently pushed back, and broad straps of adhesive plaster were tightly applied, and a six-tailed bandage, so as to afford firm and equal support. Ordered Mist. Magnes. Sulph. ʒvj.; Magnes. Calcin. ʒij.; Aq. ʒvj.; Cujus Cap. ℥j.; tertiis horis donec alv. resp: and the following form for enema to be administered, if necessary: —℞ Sp. Terebinth. ℥ij.; Tinct. Assafœt. ʒij.; Aq. ℥vss.; to be added to ℥viij. of barley water.

Six o'clock, vespere.—Pulse 120; skin hotter; has great depression; tongue dry; countenance anxious; bowels unmoved; complains of pain in the belly; had passed water. Ordered the enema to be immediately thrown up. She has just vomited. Pergat.—An anodyne to be prescribed.

27th.—Took Morph. Acet. gr. one-sixth c. Ext. Pap. gr. iij. She has had four motions; has slept well; and generally better. Pulse 90 to 96.—Cont. Mist. Acac. Tinct; beef tea; and take anodyne at bedtime.

28th.—Pulse 96; has slept well; has had two motions; a considerable discharge from the wound; all the other symptoms better except the cough, which is rather more troublesome. Continue medicine and diet; and isinglass.

29th.—Pulse 84 to 90; slept well;

bowels twice naturally moved; all the symptoms more favourable; a considerable discharge on the bandage. Upon removing the bandage and dressings the wound presented a healthy granulating surface, and covered with pure pus. There was a small slough at the lower edge. The integuments below, in the bend of the thigh, were irritated and excoriated by the discharge. Continue diet and medicines.

30th.—Pulse 86 to 100; tongue clean and smooth; bowels moved. Complains of sore throat, which is red, and slightly aphthous. Cough very troublesome, and, from its force, produces a sensation of forcing some part through the wound, and, on examination, a portion of bowel was found protruded. The lower part of the bandage and dressing being now removed, the wound was seen not so well; the granulations were paler; the discharge from the left was blackish from the slough. Fresh pledget of lint and plaster applied. Continue the same medicine and diet, and also to have eggs, and the following mixture:—

℞ Sodæ Sub-borat. pulv. bene, ʒiij.; Syrup Rhœad. ℥ss.; Mist. Acaciæ, ℥iiss.—M. ft. cujus cap. paululum subinde.

℞ Morph. Acet., gr. ¼; Ext. Pap. Alb. gr. iij.—Ft. pil. h. s. s., et rep. in horis 2, si op. sit.

December 1st.—Pulse 100; all other general symptoms better. A considerable discharge from sore, which was dark-coloured and offensive; a protrusion of the granulated portion of the sore through the dressings, which were now removed. The aspect of sore pale; its left edge was sloughy in places. The dressings were changed, and pledgets of lint with cerate over. Double folds of linen were placed, and a six-tailed bandage, to support as far as possible. Our object was to form a barrier to further protrusion, as, from the intimate adhesion which now existed amongst the convolutions of the bowels themselves, and between them and the integuments, it would be mischievous to attempt to do more than barely to defend and to support these parts. On the right side the old and the new surface presented one plane.—To take a generous diet, and porter; and also the anodyne pill.

2d.—All the general symptoms favourable. Had first refused to take porter, but afterwards did so. Wound looks better; granulations redder; pus laudable; cicatrization on left side proceeding; sloughy appearance on the right side much better.—Continue diet, porter, and night pill.

At the evening visit she reported she had taken beef-steak at dinner, and porter; and we found her eating a fowl leg, and again drinking porter: cautions given not to get into excess.

3d.—Mr. Goodman, at a later visit last night, found her pulse considerably more frequent. She complained of the wound. On examination he discovered that a large loop of intestine had protruded on the left side, which he unsuccessfully attempted to reduce. He placed a pledget of lint with cerate over it. This morning the pulse 120; bowels not moved; she had vomited some undigested animal food. The body linen was very wet by discharge, which had a pungent disagreeable smell; the dressings adhered so firmly that they were with difficulty removed. A loop of intestine, of a horse-shoe shape, covered with lymph, and fixed by adhesion; it was very much distended. Cautious but unsuccessful attempts were made to reduce it. I suggested the propriety to puncture it with a needle; a sharp-pointed bistoury was, however used, but nothing but a little blood escaped. Another unsuccessful attempt was made to reduce it. Broad slips of plaster and a bandage applied. An enema with oil, &c., to be thrown up with the syringe and œsophagus tube. To discontinue the porter and animal food; to take chicken broth.—Ordered some coriander or mustard seed to be taken, and the anodyne pills.

4th.—Bowels freely moved several times, but the seeds were not seen; all the symptoms better.—Cont.

5th.—Bowels three times moved, and in the last motion the coriander seeds were seen; every other general symptom favourable. The wound healthy; the union on the right side complete, and the cicatrization proceeding; on the left side the loop of the bowel still lay prominent, and the edges of the sore were everted, and in an unfavourable position for this reparative process. Continue diet and anodyne pills.

6th.—Pulse 96; bowels unmoved; slept well; wound looking healthy, and lessening in diameter; cicatrization rapidly proceeding; the surface over the protruded intestine loop granulating;

this portion of the bowel immoveably fixed down. Continue med. and diet; to have an enema and her anodyne pills.

7th.—Pulse 90; bowels twice very freely moved, and in one motion some coriander seeds were found; a profuse irritating discharge through the dressing. On exposing the parts, an opening was found at the lower end of the protruded bowel, through which fæces had passed, and were now escaping. The enema had not been given, but it was now directed to be administered. To continue to take the anodyne.

8th.—Pulse 90; slept well; bowels once opened by the enema. The size of the wound is considerably diminished, and its surface looking healthy. Fæces in great abundance were discharged through the intestinal opening. To continue the same plan. Ordered an enema and anodyne pills.

9th.—Pulse 84; bowels opened by enema; the wound is diminished in size, and looks healthy; the fæces are largely discharged through the opening in the bowel. To continue; to try to eat some calves' foot; to have an enema and the anodyne.

10th.—Pulse 80 to 84; the wound considerably lessened, and its entire surface looks well. The apparent size of the protruded bowel is greatly diminished, and is covered with healthy granulations; its horse-shoe character is nearly lost. Great quantity of feculent matter comes through the opening: portion of undigested calves' foot was observed in the discharge. Ordered a little wine. Continue diet; to have an enema and pill.

11th.—Pulse 74; wound lessened, and looks well; bowels moved by enema; fæces in great abundance from the opening. To continue wine, &c.

12th.—Pulse 72; had two stools, which were too light in colour, which perhaps depends on the escape of the biliary fluid too soon, as the fæcal discharge by the opening has been all along very deeply tinged, and is, still great in quantity.

The sore is now considerably lessened; it does not measure more than 4 inches in length, and 2 to 2½ in breadth. The protruded intestine so far retired as not to be seen, except when the integument is drawn aside. The integumental edges of the sore can now be approximated. To continue the wine. &c.; to have an enema; to take the pill.

13th.—Pulse 74; right edge of the wound was more inverted, and which had been produced by approximating the two sides; bowels slightly moved; considerable fæcal discharge from the wound, and in it some coriander seeds were seen, which had been taken early in the day. The wound dressed in its longitudinal direction. Continue the wine, &c.; to have an enema; to take the pills.

14th.—Pulse 72; has had no motion; granulations paler; the discharge of fæcal matter great through the wound; a sponge compress was applied over the opening, which was to be removed at intervals; it was, however, permanently discontinued in the evening.—Continue the wine. To have jelly, blancmange, isinglass, and to be allowed a partridge.

15th.—Pulse 76; small hard fragment of stool brought with the enema; countenance more dejected; complains this morning of a load at the stomach, which in the course of the day ended in vomiting of a quantity of undigested animal food; the fæcal discharge great from the wound; as the granulations were exuberant, the sore was dressed with dry lint.—Wine increased; continue altera.

16th.—Pulse 74; wound less, and looks better; bowels not moved. To only have some broth, with a little of the chicken pounded in it. Continue to have an enema.

20th.—No particular change in the aspect of the case up to this date. Pulse now 74; the fæces still largely discharged from the intestinal opening; the protruded portion of bowel very red from the everted mucous membrane. Mr. G. passed his little finger, and carried this part in; a compress was applied, and supported by plaster.

31st.—During the interval the pulse nearly uniformly 72. Bowels some days spontaneously moved once or twice; but, nevertheless, the enema was daily administered. All the general symptoms continued to improve, and the excoriations produced by the discharge were attended to by washing, &c. The everted mucous membrane of the bowel which appeared through the opening had at first rather increased, but now was considerably less. Compresses or pads were applied, &c. The discharge of fæcal matter through the opening had gradually lessened.

January 10th, 1846.—As in the last report, the pulse had uniformly continued steady. The bowels were sometimes moved more than once a day; the enemas were regularly administered; the everted state of the mucous membrane of the bowel varied in degree and in colour Her spirits were very low on the 4th, in consequence of the very great discharge which took place through the opening in the bowel. The treatment consisted of small pads placed immediately over the aperture, being supported by small slips of adhesive plaster, and then upon the integuments and over the other a larger pad, &c., fixed by broad straps and bandage.

17th.—Since the last report the pulse continued natural, and she slept well, and her appetite was good. The bowels were naturally opened once or twice a day, and therefore the enema had been discontinued until the 14th ult., when the bowels being only partially moved, and as the belly had become more tumid, they were again used. The discharge from the intestinal opening was at first less solid and more serous, but afterwards it became again more feculent. Compresses of different kinds were applied, and one suggested by me made of layers of caoutchouc was used, but did not succeed. On this day the fæcal discharge was much greater, which I accounted for by the opening, which was about the size of a silver fourpenny-piece, having changed its relative position with the integuments. I recommended that a conical piece of sponge should be placed with its point inwards, and be supported by plaster and bandage. Mr. Goodman feared that it would be injurious to use the sponge, as it might dilate the opening, and induce ulceration. My reply was that I did not fear the first effect; and, if the second happened, it would only be limited in degree, and advantageous. I thought at this time the edges of the wound were in a favourable position to be pared, and a ligature used to bring them into apposition.

22d.—Pulse kept natural, and the bowels were daily moved twice. The sponge had become a little swelled, and the edges of the opening bled a little. It was reapplied on the 20th. The bandage was very wet, and was attended by a disagreeable ammoniacal smell, which no doubt arose from the decomposition of the discharged fluid, which had taken place in consequence of the parts not having been dressed the day before. The surrounding integuments were considerably irritated and excoriated. At my desire, a simple dressing with lint and cerate was adopted, and a very loose bandage applied. The patient had sat up, but the horizontal position was advised. On this day (22d) the eversion of the mucous membrane was greater, and the opening had slightly increased. A piece of sponge was recommended by me, but a compress of lint was applied at Mr. Goodman's desire.

23d.—Pulse good; bowels twice moved; the integumental excoriation rather extended; the intestinal opening is a little larger. Mr. Goodman proposed touching its edges with Argent. Nitrat.; but I considered that the surface would heal underneath before the eschar separated, and suggested the Potass. fusa. Mr. Goodman thought it would be difficult to limit its application, although my opinion was that its action might be controlled. I recommended, instead of it, the edges of the opening to be pared off, which Mr. Goodman did by a lancet and bistoury. This operation was not so effectually done, in consequence of the tender and fragile state of the part. The edges were approximated, and supported by slips of adhesive plaster. The integuments being drawn together, formed a covering and compress to the aperture.

31st.—During this interval the pulse was natural, and the bowels some days moved spontaneously, and always responded to the use of an enema. The intestinal opening remained much the same; and the discharge from it, although not equal in amount every day, yet it was sometimes very great. Various methods were tried to control it: pitch plasters in different ways, and compresses, were used at the suggestion of Mr. Goodman, but they invariably failed to do good; on the contrary, mischief was done by them. At my request pads made from caoutchouc, of different sizes, and placed differently, were employed, but equally unsuccessfully. I recommended broad straps of plaster from the Infirmary to be tried, which also failed. As considerable irritation and excoriation had been produced by the pitch plaster,—indeed, the pain and inconvenience sustained by the patient was such that she not only requested a discontinuance, but strongly protested against its use,—my opinion was unfavourable to their use, as I considered disadvantages from these arose, not only on account of the irritation, &c., arising from the pitch itself, but from the mechanical effects, by inflecting the integuments upon each other, and also by impeding, by the great pressure produced, the peristaltic motion of the bowels. On the 30th I saw the patient alone, and thought it would be better to apply a simple dressing.

Feb. 1st to 13th.—It appears that a great discharge issued from the opening after the last dressing, so that the nurse, at the desire of Mrs. Sankey, had removed them, and brought the edges together by adhesive plaster. Long strips of plaster were again recommended by Mr. G., and very tightly applied, some of which were passed round from one side of the spine to the other. Great integumental irritation and excoriation ensued, and it was therefore thought desirable not to bind the parts so tightly. The edges of the opening were touched from time to time with the Argent. Nitrat. On Feb. 2d, I suggested the propriety of having a bandage made of some elastic but firm material, so that the diaphragm and abdominal muscles could move in opposite directions without the least impediment, and at the same time feel uniform support.

11th.—Mrs. Sankey stated that they had removed the quill, as nothing had passed through it. Mr. Goodman had placed the barrel of a quill as a conductor for the fæcal discharge; but this it appears did not answer, nor was it likely to do so, as it would be quite impossible to place such a body in a parallel direction with the course of the intestinal tube, and we cannot for a moment suppose that it could act by suction.

12th.—I found that pitch had been used again in dressing the part the day before. The evils were increased by this plan: the surrounding irritation and excoriation were seen to be much greater. Mr. Goodman ordered a new bandage, with gussets for the hips; and buckles and straps were attached to it, so that it could be tightened and fixed. This contrivance proved of great advantage to her. She wore it for a considerable time, and Mr. Goodman states he had the satisfaction to find a progressive diminution of the fæcal discharge, which passed through the intestinal aperture.

Remarks.—Mrs. Sankey's occupation was merely domestic. She was a slender, delicate, and spare-looking woman. Her complexion was pale; her skin was swarthy; her eyes were grey; and she was of a leucophlegmatic constitution. She was naturally of a mild and placid disposition; and her mind was placable, and strongly imbued with sound, moral, and religious principles, which wonderfully supported her in her severe trial, the intensity of which it is scarcely possible for imagination to conceive: what can be more dreadful than the anxieties of a woman in the pangs of labour without hope of delivery? She bore the operation with great fortitude, and scarcely made a moan; and afterwards endured a tedious recovery with great patience and resignation.

Her age was 41 years. This was her seventh pregnancy. Her first four labours were natural and easy: in the first she was delivered of a living girl, and in the other three of boys, all born alive. Her fifth labour was natural, but it was rather more tedious than her former ones: the infant (a boy) was born alive. At the end of two years she was again in labour of her sixth child, which was protracted by pelvic distortion; and Mr. Goodman, with Mr. Slack's assistance, delivered her by means of the perforator and crotchet.

The disease (mollities ossium) under which she now suffered, no doubt commenced after her fifth labour, which proved a little tedious. It is, however, very probable that the mischief inflicted on the pelvis was only slight at this period; and during the interval between it and her next pregnancy most likely the disease remained stationary. Whilst pregnant of her sixth child it rapidly advanced, and committed great ravages in the pelvis. Her general health suffered and her strength failed: her stature became obviously less. Mr. Goodman kindly informed me the thighs somewhat bowed, but afterwards recovered the usual shape. During her labour Mr. Goodman found the pelvic diameters shortened; the antero-posterior only measured about two inches.

After a consultation with Mr. Slack

he delivered her with the perforator and crotchet. It, however, rarely happens that the disease is so rapid in its progress, and does so much injury to the pelvis, as to require these murderous instruments before those which are compatible with the safety of the infant have been used in a former labour.

After her puerperal recovery, Mr. Goodman judiciously prescribed for her tonics and other appropriate remedies, and recommended her to the sea-side for the benefit of bathing. Her health was greatly improved, and perhaps the progress of the mollities ossium was temporarily arrested. This disease again returned, and produced effects on the pelvis, during her pregnancy, which rendered necessary the Cæsarean section for her delivery.

Many circumstances existed in this case which favoured its propitious termination. Her calm and tranquil state of mind, and the high degree of moral courage she had, were very advantageous.

An early rupture of the membranes, in protracted labours, especially if the pains are strong, is always to be deplored; but most fortunately this did not happen here very long before the performance of the operation. The water was not suddenly and completely discharged at once, but dribbled away. The pains were also very feeble until a very short time before my visit. The conjoined effects of these were doubtless favourable, and prevented injurious pressure on the soft parts. The bowels were freely evacuated during her labour.

By the aid of the stethoscope the incision was made in a direction to avoid cutting into the placenta, which is very important.

When the placenta is cut upon or into, partial irregular contraction of the uterus happens, and through such an accident the infant may be lost, as I have already stated: but besides this, the tissue of the uterus is likely to suffer from the force required to extricate it (the infant) from the spasmodic grasp of this organ. Besides, there may be a greater risk of hæmorrhage when the placenta is prematurely disrupted or separated.

The operation was timely performed in this case. There happened several important contingent circumstances which I shall briefly advert to. The abdominal parietes were so much attenuated as only to allow a very slender hold to be taken by sutures, and were quite unequal to resist the pressure they were subjected to. By the force of the cough, &c., this weak structure was torn through, and the edges being thereby set at liberty, retracted on each side to a considerable extent, and exposed the bowels fully seven to eight inches in one direction by three to five in the other.

Notwithstanding this serious accident, the constitutional disturbance was only trifling in degree, and of short duration.

The changes which successively took place on the exposed surface of the bowels were truly astonishing. A thin transparent effusion of lymph was first seen laid over the peritoneal coat of the intestines, which entered a little into the depressions formed between their convolutions. This thin gelatinous material gradually became thicker and more opaque,—evidently the second step towards cicatrization. During this wonderful process—for its effects were truly wonderful—innumerable vessels were seen, destined to carry on this great work of reparation. As this went on, there was a progressive and perceptible diminution in the size of the surface; and, when completed, there was a cicatrix to be seen very little different from one which is formed after the healing of a wound whose edges have been kept in juxtaposition.

Symptoms of strangulation appeared, for the relief of which several expedients were adopted: the protruded portion of the bowel was ineffectually punctured. Nature, however, stepped in, and immediately the symptoms were relieved by the formation of an opening through which a great quantity of fæculent matter and flatus were discharged. This aperture, as is mentioned in the reports, continued throughout the case. Although this disaster protracted the patient's recovery, there is no doubt it had, at the time it happened, a most salutary effect. During the whole period of the case the bowels were strictly attended to; and there is no doubt their ready obedience to our measures (chiefly enemata) considerably contributed to her recovery.

The reparative process which happened in this case, and the decidedly conservative constitutional power which this woman had, prove beyond dispute that the opinion expressed by my friend

Dr. West (London Medical Gazette, No. 1210, February 1851, p. 245) is not infallibly true, and therefore ought not to influence us, and deter us from the performance of the Cæsarean section. The same restorative power was observed in the other successful case, which is already before the profession.

As it was important to preserve the infant, I strenuously urged Mr. Sankey to obtain a wet-nurse; and no time was lost in obtaining one. The infant continued to thrive, and lived rather more than seven months. Her death was occasioned by an hydrocephaloid disease—the consequence of exhaustion from diarrhœa.

In a late No. of this journal I mentioned Mrs. Sankey again became pregnant, aborted, and afterwards died. At the present time I make no further comments.

NOTES ON THE

STRUCTURE, &c. OF TEETH.

By C. Spence Bate, Esq.

[Continued from p. 683].

Shedding.

This œconomic process in the history of dentition is an effort of nature to remove and supersede a worn-out organ or structure which new requirements on the part of the creature have rendered inefficient to fulfil the necessary conditions. Looking at the phenomena in this light, it appears to me that shedding the teeth is analogous with a similar process connected with the dermal tissues, probably universal throughout organic creation.

It may not be observable to us in all; but, without laying any stress upon the autumnal changes in the vegetable world, if we but look through an extensive range of the animal kingdom we find the exuviæ to be periodically shed. Therefore, speculation is not wild in presuming that throughout the whole of animated nature the same law is universal; and, where the fact is not appreciable to our perception, the only difference being that the moult takes place by the gradual removal of worn epithelial scales.

Among the higher of the vertebrata, the hair is shed and resupplied, the feathers of birds are annually moulted, and oftener, when a special necessity, such as an accidental injury, may require the demand; and the skins of reptiles are cast as a whole. Here, where we have the only instance of an animal possessed with true teeth (*i. e.*, teeth with fangs or roots) casting its skin as a whole through life, moulting at stated periods, we also find the same law to relate to the teeth, which are, among this tribe of animals, repeatedly shed, both in the young and in the old animal. With regard to fish, I have been informed—of which, I think, there can be but little doubt—that the scales are repeatedly lost and replaced—a fact relating also to their teeth, which, "advancing as a phalanx" from rear to front, arrive at their point of destination at the margin of the jaws, and fall off. Among the Crustacea we have the process beautifully typified: in the moulting of the whole of the hard or dermal skeleton, together with its internal continuations, the lining membrane of the primæ viæ, also its continuation over the branchiæ and the cutting teeth, are flung off, in early life repeatedly, later in existence annually, in order to meet the wants of the creatures, from the lowest type of which class, the Entomostraca, through the Chiripoda, we have an interesting link gradually leading us to the Mollusca.

The Balani (sea-acorns), among the Chiripoda, while free, as in their larval condition, cast their whole shell; but, after they have become attached, and exist as fixed or sedentary animals, they moult only the outer membrane and its internal continuation, of the soft parts: Divine love having beneficently ruled a paramount law, that where, in nature, any plan shall interfere with the happiness or well-being of any creature, a modification shall take place in its relative fulfilment. Thus, among this tribe of animals, we see ordained, that, since the removal of the exuviæ, instead of advancing their well-being, would rather render them defenceless, and an easy prey to all the marine carnivora, the removal of the old skeleton remains no longer a persistent condition in the history of the creature's habits, but exists in a mechanical capacity, thereby conducing to the strength of the external skeleton. Therefore, in those animals now under our notice, while they continue as active and free creatures, the growth of the outer integuments would impede their powers of motion, and interfere with their happiness; but, as soon as they become sedentary beings, when locomotion is not consistent with their habits, the old shell, or exuviæ, remains attached, affording no additional benefit to the animal beyond that of passive protection. Thus we see that, in this link between two classes of animals, during the period of its existence when it approaches in form and character nearer to Crustacea, like them it moults the entire skin; but when it resembles most the Mollusca, the shell remains attached to the new one, building, as it were, a strong wall of partition between the animal and external circumstances—a fact also represented among the true Mollusca: for instance, in the common oyster, the process sometimes repeats itself until the shell has increased to a thickness equal to two inches or more, so as to enable it to become an abode and place of shelter for animals of different character and habits, the upper layers of which if the animal had been actively locomotive, instead of sedentary, would, I presume, have been shed; and, therefore, in their present state, can only be viewed in the light of *undetached* exuviæ, and, therefore, certainly analogous with the process of moulting among crabs, and other animals. Among the Gasteropoda, the spines on the soft margin which surround the shells of the chiton are lost and reproduced; but, among the univalve molluscs, where the animals are generally active, the process is not so distinctly pourtrayed, the shell being developed less rapidly; but, where it has so far increased beyond the respective size of the inhabitant, the animal will only occupy the chamber at the entrance of the shell, and separates itself from the remaining portion, in some instances by building a partition between itself and the useless cavity, as we find to be the habit of the Magilus antiqua, when accident has fixed its abode in a reef of coral polypifera; while others, after having raised the barricade, free themselves from the uninhabited and useless portion by a process of decapitation: as, for example, in the Bulimus decollatus.

Upon referring to the separate tribes of animals, it appears to be a rule tolerably constant in its fulfilment that those animals possessing teeth shed them more or less frequently, in accordance with the more or less perfect completion of the moulting of the dermal tissues.

Among the encephalous mollusca, of which the commom limpet may be taken as a type, the teeth are planted upon a tough membranous strip, situated longitudinally along the mouth, the anterior edge of which, together with the teeth planted thereon, are repeatedly being torn off, the waste occasioned by which is supplied by a new development carried on at the other extremity, in a fleshy pulp connected with the œsophagus; the membranous strip (lingual riband) which connects the pulp from which it is developed with that situated in the oral cavity, is of much greater length than the distance between the two points, therefore it is folded up like a riband reflected upon itself: the whole of one surface being covered by numerous rows of teeth, increasing towards their more perfect development as they progress towards the oral extremity of the riband, and appear to me to partake of a character in separate genera bearing some relation to the food on which they feed.

Again, the identification of the teeth as belonging to the internal continuation of the dermal skeleton is forcibly shown in the fact that they are situated on many parts of mucous membrane, from the stomach to the jaws, gradually progressing from the former in the lower forms of organization, to the latter in the higher: being found in the stomach and œsophagus of the annelidæ,[*] in the pharynx, on the tongue, the vomer, and in the jaws of fish: while the next progressive step in the animal creation, —the reptiles,—possess neither lingual or pharyngeal teeth, but only the vomerine, besides those belonging to the jaws, whereas from the reptilia upwards animals possess only those which are situated in the jaws, and have the teeth formed with processes which penetrate deeply into the surrounding tissues.

The process of shedding the teeth in

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[*] Is it not a fair physiological inference, upon the observation that teeth may be developed from the mucous membrane of the stomach, œsophagus, &c., that teeth may be developed from the mucous membrane in any position? Ergo—Is it not possible, nay probable, that in those remarkable cases of ovarian teeth, of which a case is given in the Lancet of Dec. 6th, 1850, the teeth may have originated in an abnormal development from the mucous membrane of the uterus?

the human race is commenced between the sixth and seventh year, and completed between the twelfth and fourteenth year; while the permanent set is fully completed by the protrusion of the third molar, or dens sapiens, through the gum from the eighteenth to the twenty-first year, though sometimes later, and often never appears at all.

Are teeth a sure test of age?

Much labour and ingenious research have been exhausted in order to demonstrate the age of an individual at this period in the history of the teeth ;[*] a circumstance which would be most important in a medico-legal point of view; but I am much inclined to believe that it would be much deteriorated in its capability of application upon a large scale, inasmuch that it would chiefly be found at fault where the general system would be extremely robust and well developed, or, on the opposite hand, remarkable for a backwardness in the progress of the whole system: in fact, in just those cases where an artificial notation would be most necessary.

I know several individuals who at different ages, of twenty, thirty, forty, still retain some of their deciduous teeth; and I once examined the mouth of a young woman (aged 24), of whom I regret to say I have lost sight for some time, who still retained many of her deciduous teeth, and of those which were shed she only had them replaced by two upper central and one under incisors; the permanent molars were normally developed.[†] It had been my intention, should circumstances have favoured me (which I hope yet that I may be enabled to recover), to have watched the progressive history of the case, believing it to be one of those peculiar ones which might by a retarded or slow development of the permanent set be a future mistaken illustration of a third dentition, following in successive order; a feature in the history of the human and even mammalian economy which appears to me to be physically impossible: and I think there are few but who will agree with me if they reconsider the matter in its relation with the whole development of the teeth.

On a Third Dentition.

There is nothing at all improbable in the idea that at the period when the secondary groove is formed a similar tertiary groove may be formed on the opposite corresponding position in relation to the primary groove and I believe that to such abnormal tertiary groove the origin of certain supernumerary teeth is due: therefore it might very plausibly be argued that an abnormal development of this kind corresponding with each tooth of the deciduous set would so constitute a third dentition consisting of twenty in number. That teeth might so be developed is one thing; but that they should constitute a third set consecutively is another.

The third set having been developed contemporaneously with the second, must necessarily progress in a parallel ratio with it, yielding only in proportion to the difference of activity which might possibly exist between an abnormal and normal structure: therefore all the teeth would protrude through the gum, if not simultaneous, at least during the existence of the contemporaneous set, and constitute what are recognized as supernumerary teeth, which bear but a small resemblance to the more perfectly developed teeth.

It is well known, and I myself have seen teeth which have cut through the gum between sixty and seventy years of age. Prof. Bell mentions that he knew "an instance in which four front teeth were produced in a female at the age of eighty:" but there can be but little doubt, as that able pioneer in dental physiology points out, these organs, new in appearance, must have been of the second normal dentition, they having remained concealed within the jaw: yet I think the manner by which he accounts for their appearance at last scarcely to be in accordance with our knowledge of the development of these organs—viz., that they, having been retarded in completion for some time, suddenly receive "a fresh impulse of formation by one of those remarkable efforts at renovation which are frequently seen to take place when the functions of the system have, in the natural course of decay, in a great degree ceased to exert themselves."

If we but observe closely the conditions of these delayed productions, we shall find that they, "being unsupported by alveolar processes, are always loose and useless, and generally excite so much irritation as to require their speedy removal." It appears that the true state of the case is, that they are imperfectly developed teeth of the second or permanent set, which, never having induced absorption of the fangs of the deciduous teeth, have remained buried in the jaw while the deciduous have fulfilled the duties of the permanent teeth. Ultimately, from disease or other cause, the over-tasked milk-teeth give way, and, as a necessary consequence, absorption of the alveolar processes takes place: thus, by destruction of the surrounding tissues, and not by any new impulsive growth, the hidden tooth becomes exposed, and, if any elevation of the tooth at all takes place, it must be due to a filling up, by osseous tissue, the bottom of the alveolus in which it is placed,—being, in fact, an effort of nature to rid itself of a foreign and useless body in a manner analogous to that by which it endeavours to rid itself of the fangs of a decayed tooth, or that by which a sound one is elevated above the rest when it may have lost its antagonist in the opposite jaw. This would fully account for the loose and irritating bodies which these teeth generally appear to be.

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[*] The lectures of Mr. Saunders, as published in the "Forceps" some years since, are by far the most important in relation to this subject.

[†] This is stated from memory, having mislaid the notes made at the time.

Relation between the Development of the Teeth and the Nervous System.

It has long been a recognized fact that a decrease in the extent and power of the jaws takes place in relation to the gradual development of the ganglionic system; and it also appears that this rule exists, not only in comparison between distinct classes of vertebrated animals, but to be influenced by an increase of development or cultivation of the brain in the same species. This we have readily exemplified by a comparison between the jaws and crania of the Caucasian race and that of the African and Mongolian. I have had no opportunity of observing whether or not an increase of the overlapping of the pallatal processes of the superior maxillary and pallate bones of the European races exists (as is probable) in a proportionate degree over the Australian and African aborigines, such as has been previously noticed in these papers to prevail in the human family over the lower order of mammals; but whether such exists or not among the different races of mankind, it is evident that a character most marked in the adult state must be most distinctly seen in that portion of the jaws which is developed latest; therefore at the posterior portion of the maxillary bones. It being to a more or less partial arrest in the progressive development of the osseous tissue at this portion of the jaws that I imagine the ordinarily imperfect state of development of the third molar is to be attributed in European races, a tooth which has degenerated from the external characteristics of a true molar, such as it exists among savage races, into a deformed and useless appendage, and scarcely worthy of the title implied in its popular synonym, as being that selected as the seat of intellect:

> " If proverbs tell truth,
> A double tooth
> Is Wisdom's adopted dwelling."

The idea of the dependence of the development of the third molar upon the development of the jaws is supported by the fact which experience teaches us, that if the first molar be removed from the jaw at an early period, the tooth in question, having more room, arrives at a more perfect state of development.

Also it is more than probable that the same cause may affect the period of its progress through the gum; the conjecture (for with me it is scarcely more, founded upon the relative progress of the tooth in more or less developed jaws, in different persons, met with in private practice) being, that, among the larger developed jaws of the human race, the third molar arrives at its full development at a much earlier period in their respective ages: and this would of itself account for the irregularity in the permanent set so very common in civilized tribes, and consequently a large proportion of caries which it usually entails, together with its concomitant pains.

On the Relation existing between Food and certain Forms of Teeth.

There is a subject of much interest and value in reference to the teeth and the nature of the food adapted to each peculiar modification of these organs: and although a general classification has long since distinguished the peculiar character requisite in a tooth to fulfil a certain function, yet isolated difficulties are apparent: for instance, the teeth in the human mouth are uniform in character with those belonging to the quadrumana,—so much so, that they must certainly fall under the same classification; feeling which, Prof. Bell has pronounced that man, in his primitive state, must have been a frugivorous animal, because all the monkey tribe are recognised as such; while, on the other hand, Prof. Owen believes the quadrumana to be naturally carnivorous as well as frugivorous in their native state, founding his conjecture upon having witnessed monkeys eat flesh in the Zoological Gardens.

There is little doubt but that, under peculiar circumstances, many animals will eat food of a character different from that which is generally considered as natural to their habits. I think it is Bishop Heber, in his "Indian Journal," who mentions that some sheep which were taken out with him were, while in the ship, from want of sufficient fodder, fed upon meat, and when they arrived at Calcutta refused any other kind of food.

Again: Mr. Darwin mentions that, during the voyage of the Beagle, he noted the carnivorous propensities of certain rodentia in their wild state; "for no sooner" (he says) "was a mouse caught in one of my traps, than it was devoured by others." Moreover, I have been informed by a friend, who is an accurate and too cautious an observer to state anything without good grounds, that, among the insectivora, moles are also carnivorous; they not only, when in confinement, attack and devour one another,—a circumstance almost compulsory, since they are animals which die of starvation in a very few hours,—but also, in their wild state, prey on field mice, and any small animals which they can succeed in capturing.

These facts seem to diminish the value of conjecture, which, however probable, are only based upon an isolated observation, and that on animals not under a natural condition, as the monkeys in the Zoological Gardens.

Perhaps I run the risk of being charged with presumption for offering an opinion when authorities so high are not reconciled; but I cannot forbid myself the opportunity of presuming that teeth formed such as those which belong to the quadrumana and bimania, are omnivorous; but it does not follow that, because animals so endowed, must be omnivorous feeders. They choose that character of food which their natural habit brings most within their capability of easy attainment: thus the inhabitants of trees seek their food in fruits. The inhabitants of broad plains and fertile valleys obtain their means of sustenance from hunting, fishing, and fruits; and it is highly probable that if monkeys were to live under similar conditions to man,—that is, descend from trees to earth, and to leave the wood for open countries,—that they could, without any deterioration of their healthy development, feed as man does: but this by no means argues that they do so now in their present free arboreous condition.

Can Teeth change their Character?

If certain teeth are only capable of performing the operation of efficiently masticating certain characteristic food, it would be a subject for interesting inquiry, how far animals endowed with a certain class of teeth might or might not, in successive generations, upon change of food, lose the peculiar character of their original teeth, while they approximate nearer to that which nature, in a universal design, has planned to masticate such distinctive food. Such an hypothesis at first sight may seem scarcely worthy of serious consideration; but I have a fact to mention, that will not wholly exclude such an idea, correct or not, from the mind. Furthermore, when we take into consideration that the dermal appendages are liable to change through variation of condition, as, for instance, the fox obtaining fur and becoming white, in Russia; and the elephant living among the Himalaya mountains, Bishop Heber tells us, acquires long hair similar to that which belonged to the extinct gigantic mammoth; the idea seems not to be wholly impossible in accounting for the following phenomena in relation to the absence of teeth in fish.

Llyncarrw* is a lake at an elevation of somewhere about 1,200 feet above the level of the sea, in the Breconshire mountains, which having originally no fish, was stocked by the owner about seventeen years since with trout, taken from the river Clarwen, a stream separating Breconshire from Radnorshire, and which was fed beside other sources by the waters of this same lake. The trout, which are the only fish in this latter water, are edentulous, or, as my informant says, have only rudiments of teeth; whereas the trout in the Clarwen, from which they were originally brought, have finely developed teeth; nor is this the only change they have undergone by being transported from their original stream: then they were thin, white-fleshed, flabby, and poor eating; whereas, in Llyncarrw they are pink as salmon, firm-fleshed, and good eating.

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* The statement is made upon the authority of Matthew Moggridge, Esq., of Swansea, who is a careful observer of natural phenomena as well as a keen sportsman.

What are the causes of these curious and great changes in the teeth and muscular system of these fish, consequent upon being removed from a stream in the valley to a lake on a hill? Can it in any way arise from change of food? There being no other fish, such as minnows, sticklebacks, &c., in the lake, my informant was desirous of learning on what they chiefly fed, and upon having their stomachs examined found them to be filled chiefly with the leech, which annelid abounds in the lake.

The most feasible method which appears to me to account for the arrest in the development of the teeth is, that the waters of the lake must be very deficient of lime in solution; consequently, like a shell from the egg of a hen not fed with calcareous gravel, the teeth are deficient in structure, and likewise probably the whole osseous tissue of the fish, although Mr. Moggridge informs me that he did not observe the structure of the jaws to be less firm than ordinary.

This idea, moreover, seems to be strengthened from observation of the food upon which, together with a few flies, the fish almost exclusively lives. The leech being an animal possessing no calcareous skeleton, precludes all possibility of any lime being taken into the system by the digestive organs.

In the Medical Times of October 1844, a somewhat parallel case, under the head of "deficient dentine" in the human mouth of the inhabitants of the Pyrenees, is mentioned by their Paris correspondent, in which it was observed that "a race of men called Cagots," who, as stated by M. Guyon, chief surgeon of the army in Africa, are descendants from the Goths, and who, like all the inhabitants of the Pyrenees, possessed this defect—viz., the loss of their teeth.

The word "loss" being made use of rather mystifies the reading, but I imagine the individuals to possess a few abnormally-developed, ill-shaped teeth—such as are occasionally met with in this country.

One point of assimilation between the fish and the inhabitants of the Pyrenees is of interest,—that they both occupy elevated geographical positions.

[To be continued.]

REPORT OF THE VITAL STATISTICS OF PLYMOUTH, FOR THE MARCH QUARTER OF 1851. BY DR. WILLIAM HAMILTON.

SINCE the report was prepared for the press, we have seen a general statement of the results of the last enumeration, which goes far beyond our most extravagant expectations. From this statement we learn that Plymouth has added to her population within the brief space of nine years and three-quarters, a number within 880 of seven-eighths of her population in 1801, and nearly equal to one-third of the aggregate population of the three towns at that period: exceeding the amount of natural increase by no fewer than 10,202, or nearly five-fold, and exhibiting an average annual increase from immigration of more than *one thousand*. Thus Plymouth stands, as her highly favoured situation entitles her to stand, and as she would have stood years ago had she enjoyed, as she does now, the advantages of rapid communication with the more distant parts of our island, at the head of every town in the counties of Cornwall, Devon, and Dorset. On the 7th of June, 1841, the population of our two parishes, of St. Andrew and Charles, was 36,527, and on the 31st of last March it was 49,667, exclusive of 1,014 on board ship, within the waters of the borough, of whom 842 were British subjects, 172 foreigners, making—exclusive of these last—a grand total of 50,509.

Thus we have for the three towns an aggregate population of not less than 84,728; namely, Plymouth, 49,667; Stoke, 34,160; Stonehouse, 901—in all 95,798. Should the population of Plymouth continue during the next ten years to advance only at the same rate as during the period which has just expired, we may expect to find a population of nearly 63,000 in the two parishes of St. Andrew and Charles alone.

MEDICAL GAZETTE.

FRIDAY, MAY 23, 1851.

THE recently published table on the London returns of Mortality presents some features of interest in reference to medical statistics. The Registrar-General has here grouped in one sheet, a summary of the returns for a period of twelve years. The relative mortality from different diseases thus admits of easy comparison, and the rise, progress, and decline of epidemics, including that of malignant cholera, may be traced with as much accuracy as can be attained under the circumstances. The returns commence with the year 1839, and end with the last quarter of 1850. The estimated population of the metropolis for 1850 was—

Males	1,048,644
Females	1,191,645
Total . . .	2,240,289

In the total population the number of females living, at all ages, exceeded the males by 143,000.

In examining the total births during this long period, it will be found that they have been progressively on the increase. Each year has shown a considerable addition to the London population. The deaths have not shown a similarly progressive increase. In two years, 1847—1849, the deaths were considerably greater than in any other years of the period: while in the remaining years they did not greatly exceed the number recorded in the first year, at which the returns commenced. This remarkable difference in the births and deaths will be indicated by the subjoined figures, which represent the numbers at the beginning and end of the term for which the returns are made:—

	1839.	1850.
Births	52,609 . .	74,317
Deaths. . . .	45,441 . .	48,579
Excess of Births over Deaths .	7,168 . .	25,738

The two most fatal years of the period were 1847 and 1849, when the deaths were respectively:—

In 1847.	In 1849.
60,442	68,432

The increased deaths in these years are sufficiently accounted for by a reference to the table of causes.

It may be remarked as a singular fact, that in every year, in spite of the vast fluctuations of mortality, the births have exceeded the deaths. Thus in the two most fatal years the excess was represented as 7889 for 1847, and 4230 for 1849, which was the year of the cholera.

From this progressive increase of births, unaccompanied by a corresponding yearly increase of deaths, we are inevitably led to the inference that this metropolis is not in that deplorably unhealthy condition, from foul air, corrupted water, and imperfect drainage, in which it is represented to be by some sanguine sanitary reformers. It is evident that the prolific powers of London females are not affected by the causes above assigned; and it is clear, when the annual deaths have undergone an increase of only 3000 in twelve years, while the births have increased by the number of 18,000 in the same period, that the poisonous atmospheric and aqueous influences under which we are presumed to live are certainly not indicated by these numerical returns. The struggles of ultra-sanitary reformers (we refer to them with respect) are now directed to avert what they term *preventible* deaths—*i. e.*, as we understand it, to save to the metropolitan population all those who are now cut off by zymotic diseases, amounting to at least ten thousand per annum!

Admitting that it is in their power to succeed in these efforts, as they cannot prevent the enormous increase of births, a vast number would be annually added to an already overgrown population which in itself would become a great source of disease and mortality. One of the great causes of London mortality is the congregation of immense numbers in confined spaces, and the virulence thereby conferred on disease, owing to the want of a proper amount of ventilation, and the absence of other hygienic conditions which are indispensable to health. Unless, therefore, these sanitary efforts to extirpate typhus, cholera, and similar zymotic scourges, be accompanied by a forcible diffusion of the population, and by the destruction of narrow streets and alleys as well as of confined dwellings, we do not perceive how deaths are to be prevented; or, in other words, how lives are to be saved to the community. As London is at present constructed, any success in this branch of sanitary reform will only add to the population in localities already too confined for the number, who are now compelled to inhabit them.

We doubt, however, whether it be in human power to exercise a control over the annual deaths beyond a very limited extent. In crowded populations there will always be a certain number of deaths from the so-called *preventible* causes. Poverty, destitution, and the want of proper food and clothing, will necessarily add to the mortality of a district. The health of the metropolis, judging by the reduced mortality, has been greatly improved within the last sixty years; but it appears to us a Utopian notion to suppose that we can carry these improvements to a degree to extirpate the class of zymotic diseases altogether, or even to reduce the metropolitan mortality from them materially below the present annual average. The table now before us shows that the metropolitan deaths from zymotic diseases are subject to very remarkable fluctuations, which cannot be explained by the observance or non-observance of those hygienic conditions on the absence of which the prevalence and severity of these diseases are supposed to depend. Thus in 1841 the deaths from zymotic diseases were only 7909; three years later—*i. e.* in 1844—they were 11,189; and in the first and last years of the period they were as under:—

	In 1839.	In 1850.
Deaths from zymotic diseases	9613	9875

Making due allowance for the increase of population, the deaths from this class of diseases are found to be just as numerous at the end as they were at the beginning of the period. It cannot be admitted that no sanitary improvements have been made during the last twelve years; and the only inference to be drawn is, that the number of deaths from this class of diseases has not been materially affected by these improvements. The five last years of the period show the most surprising fluctuations in this respect. Thus the deaths from zymotic diseases were—

In 1846	9596
„ 1847	14039
„ 1848	18113
„ 1849	28313
„ 1850	9875

The metropolitan mortality has been thus distributed in a sort of cycle. At the close of 1850 we were in precisely the position in which we stood in 1846; and in the short period of two years—chiefly as a result of the malignant cholera—the deaths from this class of diseases were doubled. The fact is, on turning to the table of causes, we find some diseases acquiring greater virulence at one period, and others at another. In 1845 measles was very fatal; in 1846 this disease abated, and hooping-cough and diarrhœa increased greatly in mortality. In 1847 the most fatal diseases were measles, diarrhœa, and influenza. In 1848 hooping-cough, diarrhœa, and typhus prevailed. In 1849 scarlet fever, hooping-cough, diarrhœa, cholera, and typhus predominated; the deaths from cholera alone amounting in that year to 14,125,—*i. e.*, to about one-half of all the deaths from diseases of this class. In 1850 hooping-cough, diarrhœa, and typhus prevailed, while cholera was again in abeyance. Notwithstanding the sanitary improvements between 1846 and 1850, the deaths from these diseases were nearly the same in the two years; and the three intermediate years had no character in common, except that of an excessive mortality from the prevalence of very different diseases.

Our object in making these remarks is not to disparage the efforts of those who are exerting themselves to improve the dwellings and habits of the poor, but to show that we must not place too great confidence in our power of extirpating diseases. We may mitigate their effects, and, to a certain extent, reduce the numbers of those who are annually cut off by them; but that two and a quarter millions of persons can be crowded into a comparatively small area without producing conditions favourable to the diffusion and fatality of disease, appears to be a clear impossibility. We know of no effectual remedy but that of dispersing the urban population: with such a yearly accumulation of births, it is absurd to talk of suppressing zymotic diseases.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 15th May, 1851:—Stephen Chapman Townsend, Crediton, Devon—David Johnson, Honsmonden, Kent—Thomas Dickinson, Chelsea—James Gardner, Worthing—George Stunt—Joseph Earle.

Reviews.

Cases in Midwifery. By the late John Green Crosse, M.D. F.R.S. Arranged (with an Introduction and Remarks,) by Edward Copeman, M.D., F.R.C.S., Consulting Accoucheur to the Norwich Lying-in Charity, and Physician to the Norwich Magdalen. 8vo. pp. 228. London: Churchill. 1851.

In the introduction to this work, Dr. Copeman has ably advocated the claims of Midwifery as a branch of medical science. These, however, are now admitted on all hands, and the London College of Surgeons has taken the initiative of the other examining bodies in proposing the institution of examinations on this subject.

From the tables contained in the volume before us it appears that instruments were used in 84 cases out of 1377, or to 1 in $16\frac{2}{5}$. In 1394 presentations, 1320 were natural, or about 1 in 19 unnatural. Of the latter, those of the breech were most frequent, 1 in $49\frac{11}{14}$; next to these, the face to the pubes 1 in $53\frac{3}{5}$; footling cases in the proportion of 1 in $174\frac{1}{4}$; presentation of the face, 1 in 279. In the instrumental cases, the vectis was employed in 29, the forceps in 25. Dr. Copeman is a great advocate for the use of the vectis, which he admits that he has used "more frequently than, from the average of a large number of cases, appears *needful*." In extenuation of his practice, he adds—"I do not desire to advocate the instruments when they are not absolutely necessary, being fully aware of the *possibility* of their causing much severe and irreparable mischief; I can therefore only say in satisfaction, that, in some instances, I have been implored by patients who have before experienced its beneficial effects; that I have never seen a patient die whom I had subjected to its operation; and that I have never witnessed, in my own practice, the occurrence so frequently attributed to the abuse of instruments." With all deference we would remark, that having pleaded guilty, we do not think the author's defence a sufficient justification: at the same time it must be conceded that Dr. Copeman has acted most wisely and judiciously towards his younger brethren by thus candidly stating the character of his own practice.

The first part of the work consists of an essay on Abortion, including a consideration of its causes, effects, and treatment; followed by a series of one hundred cases.

The second part comprises a number of cases attended by Mr. Crosse in consultation; together with remarks on some of the principal subjects to which they refer. Disease and displacement of the soft parts complicating labour, are placed first among these. We next meet with difficult labour, requiring vectis or forceps; twenty-five cases are here related, of which in twenty-three the forceps were used, and the vectis in two. The observations upon the use of instruments, from Mr. Crosse's pen, are worth the deliberate study of the too busy obstetrician. Mr. Crosse tells us that the vectis is of use mostly where the labour would have done as well without it, and is of no use at all in cases of real difficulty. The following admission by Mr. Crosse should also be borne in mind. "I have come to the conclusion that I have used them (*instruments*) more frequently than I ought to have done" (! !)

The perusal of the cases given in this part of the work will attest the soundness of this conclusion. Dr. Copeman, as we have said, prefers the vectis to the forceps, and takes occasion to modify or combat Mr. Crosse's animadversions upon the value of the former instrument.

The two next sections afford examples of cases in which turning and craniotomy were found necessary. These are succeeded by a case of spontaneous evolution recorded by Mr. Crosse, and another of a similar nature by Dr. Copeman.

After the relation of several cases of placenta prævia, Dr. Copeman discusses Dr. Simpson's plan, which he seems disposed to adopt in some few cases; such as where the placenta is placed entirely over the mouth of the uterus, and the hæmorrhage is so great that little hope can be entertained of saving the life of the child. Dr. Copeman does not, however, feel enabled to speak from sufficient experience of this mode of treatment, while Mr. Crosse's cases are obviously in favour of immediate turning.

The four following chapters include the records of various accidents and concomitants of labour, and are practically interesting and instructive. The topics comprised in these are—laceration and rupture of the uterus, injury to the vagina and perineum, fever, convulsions, flooding, syncope, phlebitis, and some of the diseases and injuries of infants.

The cases thus collected and published will be found of much service to the student of midwifery, who is indebted to Dr. Copeman for the able manner in which he has performed his editorial duty. They are a monument highly creditable to the industry and talent of the late Mr. Crosse.

On the Structure of the Membrana Tympani in the Human Ear. By JOSEPH TOYNBEE, F.R.S., F.R.C.S., Aural Surgeon to St. Mary's Hospital, &c. &c. Reprinted from the Philosophical Transactions. 4to. pp. 10. London: 1851.

THE conclusions at which Mr. Toynbee has arrived on the intimate structure of the various tissues entering into the composition of the *membrana tympani*, differ materially, the author states, from those of previous investigators.

Mr. Toynbee enumerates the following tissues, examined from the exterior inwards:—1. Epidermis; 2. The proper fibrous layer, composed of, *a*, the lamina of radiating fibres, *b*, the lamina of circular fibres; 3. The mucous membrane.

The microscopical characters of the two fibrous layers are minutely described by the author, and illustrated by plates. Mr. Toynbee alludes also to the opinion entertained by some, as to the muscularity of these structures. The facts which seem to militate against this view are thus stated by the author:—

> "1st. The absence of distinct nuclei in the fibres. 2d. Their great denseness and hardness, their firm and unyielding structure, they being so strong that it is with some difficulty they can be torn across."

Mr. Toynbee further points out:—

> "That, of all the laminæ which constitute the membrana tympani, not one is proper to the organ, all of them being directly continuous with other structures, of which they appear to be modifications. Thus:—1st. The *epidermis*, continuous with that lining the external meatus; 2d. The *radiate fibrous* lamina, a prolongation

of the periosteal lining of the external meatus; 3d. The *circular fibrous lamina*, a prolongation of the periosteum of the tympanum. 4th. The *mucous membrane* forming part of the lining of the tympanic cavity."

We may here quote the description of another structure, which the author has for the first time published:—

"Between the epidermoid and radiating fibrous layers of the membrana tympani, there is a distinct and complete lamina of membrane, which is continuous with the dermoid layer of the meatus. The presence of this membrane, to which, on account of its structure and functions, I have given the name of dermoid layer, is best demonstrated by carefully dissecting under water the membranous meatus from the upper surface of the osseous tube as far as the attachment of the membrana tympani: at this point the periosteum of the meatus is seen to become continuous with the radiate fibrous lamina; this being cut through, the dermoid layer is seen passing down over the outer surface of the radiate fibres, and separating them from the epidermis. If the upper portion of this layer be drawn gently downwards by one hand, by means of a fine needle in the other, the delicate cellular tissue connecting it to the fibrous lamina can be broken up, and it may be removed entire. The presence of the dermoid lamina may also be shown by the introduction of a fine bristle between it and the radiating fibrous layer at the superior part of the membrana tympani, and then, by passing it down, the cellular tissue is lacerated.

"In a healthy state, when uninjected by blood, or by artificial means, the dermoid lamina is thin and transparent: examined by the microscope, its structure is found to resemble areolar tissue. When injected, this membrane is observed to have numerous blood-vessels ramifying through it, and they form an elaborate plexus: when these vessels are enlarged, they give the red appearance to the surface of the membrana tympani which is frequently met with during life. It is upon the supply of nerves to this membrane that the exquisite sensibility of the membrana tympani depends.

"A knowledge of the existence of the membrane here described is of interest to the anatomist, who recognises in it the secreting organ of the epidermoid layer of the membrana tympani; and to the surgeon, who, by its presence, is able to understand phenomena occuring in certain diseases of the ear which have been hitherto incomprehensible to him" (Appendix).

Besides this *dermoid layer* of the tympanum, Mr. Toynbee draws the attention of anatomists to another structure which has hitherto escaped notice—viz., the *tensor ligament of the membrana tympani*, by which the latter organ is retained in the moderately tense condition fitting it to receive sonorous undulations.

"The ligament in question is about three-fourths of a line in length, and it is attached internally to the cochleariform process, and externally to that part of the inner surface of the malleus where the long process joins the neck. In the interior of this ligament, which presents a tubular shape, is placed the tendon of the tensor tympani muscle. It is thin anteriorly, where it consists of very delicate fibres; but the remainder is thick and dense, being composed of firm ligamentous tissue."

This is a most interesting monograph, and one of very great value to the anatomist, physiologist, and surgeon. For our own part, we thank Mr. Toynbee for his very lucid demonstration of structures with the existence of which we were previously unacquainted.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 15, 1851.

THE PRESIDENT IN THE CHAIR.

On Fatty Degeneration of the Placenta, and its Influence as a Cause of Abortion, Death of the Fœtus, Hæmorrhage, and Premature Labour. By ROBERT BARNES, M.D. Lond., Obstetric Surgeon to the Western General Dispensary, Lecturer on Midwifery.

THE author commences by relating two cases of premature delivery at the 7th month. In the first, flooding occurred twice without obvious cause, and unaccompanied by pain, at the third month, and again at the seventh month, when labour followed. In the second case there was no hæmorrhage previous to delivery. In both cases death of the child had occurred some time previous to delivery. In both cases the placenta was studded with fatty masses, apparently isolated from the surrounding structure: these masses were firm, yellowish-white, and bloodless. On careful dissection, it was obvious that the diseased and apparently healthy portions of the placenta were continuous, and that the fatty masses were the result of fatty deposit or degeneration in the proper placental structure. In one case, branches of the umbilical vessels in an atrophied condition were traced through several of the fatty masses. In the examination of the minute structure of the altered parts, the author had availed himself of the assistance of Dr. Hassall. The following conclusions had been arrived at:—The placental villi were thickly studded with innumerable minute spherules of oil. The chorion was much altered, thickened, destitute of nuclei, of a yellow colour, and more or less broken and detached from the vessels. The umbilical capillaries no longer presented nuclei in their walls, these being replaced by spherules of oil. The spherules of oil were contained, some in the chorion, others in the walls of the blood-vessels, many in the intervals or spaces between these. The cavities of the vessels were almost exclusively free from fatty deposition. The vessels were destitute of blood. In some parts the process had extended to complete disintegration of original structure. In those parts that, to the naked eye, appeared healthy, evidences of fatty deposit and degeneration being in progress were observed. A number of specimens of sound placentæ had been examined, and the occurrence of a certain proportion of oil as a normal constituent had been determined. (Drawings showing the microscopical appearances were exhibited.) With the exception of a case of fatty degeneration of the placenta recorded by Professor Kilian, and of which an abstract appeared in the British and Foreign Medical and Chirurgical Review for January 1851, no distinct recognition of the nature of the affection is to be met with. The author regards the fact of the occurrence of this change of structure in the placenta as highly interesting, both to the pathologist and to the obstetric practitioner. It promises to throw light on the disputed question of hereditary transmission of predisposition to this disease. It shows how rapidly such change of living structures may take place. The conversion of portions of placenta into solid unyielding structure, and the consequent imperfect attachment of these portions, and of the surrounding healthy structure, to the womb, give rise to hæmorrhage, and premature labour may occur possibly during the life of the child. A more frequent occurrence, probably, is the destruction of the fœtus in consequence of imperfect nutrition, and by a process of slow asphyxia. Fatty degeneration may also cause abortion in the early periods, the ovum being affected. With reference to treatment, it was suggested, whether the known disposition to this destructive change, if established by the observation of preceding pregnancies, might not warrant the induction of premature labour, with the view of anticipating the period at which the fœtus would almost certainly be destroyed if left in the womb. Some suggestions were also offered with reference to the general treatment to be adopted with a view of counteracting the disposition to fatty degeneration before and during pregnancy. The paper concluded with the expression of the hope entertained by the author, that his account of the process of fatty degeneration in the placenta would be accepted as a useful contribution in extending the knowledge of an important subject in general pathology, and in directing attention to a source of danger to mother and offspring comparatively unnoticed in obstetric practice.

Dr. **Richard Quain** remarked that the author of this interesting communication had spoken of fatty deposition and fatty degeneration synonymously, whereas there was a broad distinction between the two processes; in the one case fat was deposited or secreted from the blood in the form of adipose tissue—large cells containing oil; in the other case mere granular particles were formed as the result of decay and degeneration. This process appeared to be a mere physical or chemical change. It was observed in dead flesh in the form of adipocire. In albumen and fibrine, and in the textures which they form, the process could be observed experimentally, and the change in their substances followed by the microscope. This same process, he observed, might be witnessed in the living body in various products and textures placed beyond the sphere of vascular action, and in some of the more highly organised tissues, where the nutrition is interfered with either by inflammation or obstruction to the vessels. Fatty degeneration then was, he said, nothing more than a result of decay or disintegration. In the case of the placenta he believed that there was some previous modification of nutrition, most likely the result of inflammation or hypertrophy; as in a case mentioned by the author we had a tough leathery placenta, a calcified or bony placenta, and these conditions seemed to originate in some similar process. He (Dr. Quain) thought it was by directing our attention in this way to the origin of the lesion, that we could hope to prevent its occurrence or remedy its defects.

Dr. **C. J. B. Williams** considered that attention should be directed to the nature of fatty degeneration in relation to that class of changes constituting cachexia, and exhibiting itself in a great number of diseases. It appeared, he said, the fashion to regard degenerations as independent changes, and as if fatty degeneration were as worthy to be considered a separate disease as cancer, tubercle, &c.; he said there was a natural tendency of the various products to undergo the change from the albuminous to the fatty. Mr. Gulliver had referred, he observed, to this change in the fatty or atheromatous deposit of arteries, in pointing out the analogy between the chemical formation of fat and the formation of adipocire. Dr. Quain had fully laid this subject before the Society, but neither the Society nor profession, he thought, appeared to be sufficiently aware that this is a chemical change, and forms a part of the several morbid processes from a degradation or failure in degree of the vital processes; that similar changes took place both in and out of the body when not decomposed; that it always took place in almost every part of the body under degraded nutrition with destruction of material, and in almost all inflammatory diseases: the circulation being obstructed, the nutrition is not developed, and fat is generated. In fibrous membranes, and on the pleura, the microscope showed a formation of fat where organization had not taken place: lymph, if not absorbed or organized, becomes fat. He (Dr. Williams) further observed that blood has been converted into fat, as has been observed in apoplectic clots: he supposed that in the placenta the circulation becomes obstructed by an inflammatory process. Hypertrophy may result, and from degraded nutrition undergo the change, but this he considered a matter of doubt. This was the original cause of the abortions: in conclusion he referred to the changes observed frequently in the ovaries, where hair and fat have both been frequently observed, and appeared to think that the fatty changes, both in the liver, kidneys, and placenta, might be explained on the view of having not been sufficiently brought under the influence of nutrition.

Mr. Streeter said he should be sorry that, on so interesting a subject, no remark should be made by those experienced obstetricians who surrounded him; that he was not aware of any monograph being written on the subject, except in a French journal. He (Mr. S.) had in his own practice always looked to the maternal surface of the placenta, supposing that, if it presented no abnormal appearance, the uterus was healthy; and, if it were not so, he watched his patient most attentively, and considered we might make this a means of diagnosis as to the healthy condition of the uterus; and that, in single globules of the placenta, he had found appearances similar to pneumonic consolidation. He thought that the anatomy of the placenta was not so well known as it might be from comparative anatomy, and supposed that the nutrition of the child was much influenced by the mucous membrane of the mother, and that the capability of syphilis being propagated from the father to a child in utero in a healthy mother tended to verify the belief. In conclusion, he said a milky-like fluid was imbibed by the vessels of the fœtus; and in this we have a sufficient source of fat from the mucous surface, without resorting to the necessity of fatty degeneration, and thought the early abortion depended on some interference with the respiratory process, which view he had advocated some twelve years since.

Dr. Robert Lee, on rising, said that Dr. Wild, in 1833, had published an article, "De Morbis Placentæ." He (Dr. Lee) had never seen pus or lymph formed in the placenta, or an instance of inflammation on the fœtal or maternal surface, although frequently looking for it, but he had seen coagula. He was astonished Dr. Barnes had not alluded to Cruveilhier, who has represented both hypertrophy and atrophy of the organ; and Dr. Lee considered the last (atrophy) the fatty degeneration, and observed that Wharton Jones says it is not fatty degeneration, and he considered there was no better authority on microscopic observations. Dr. Lee described a white nodule-like appearance seen under the placental decidua, which is hard, yellow, cutting like cartilage, and that this was to be found in connection with disease of the villi of the placenta, but that it was not fat. In his eighteenth lecture he (Dr. Lee) had described an appearance of adipose matter, but had never seen a case that would make him say that the placenta had degenerated into fat; that this was a peculiar conversion of the villi of the chorion interrupting the fœtal circulation in the organ; he had seen this in seven or eight cases; that the patients themselves had also remarked it. He thought it ran its course before it was warrantable to induce premature labour; that in a slight degree it may do no harm, but that in a great degree the fœtus is not sufficiently nourished: it is, in fact, he says, a placental apoplexy. Dr. Lee next referred to the case of a lady who, from fright at some scenic effect at Covent Garden Theatre, miscarried, and the child was born dead, half of the placenta being found atrophied. That, in cases where it had occurred again and again in the same party, it appeared connected with syphilis. In some instances it takes place before quickening, in some after it, and in others has disappeared altogether. There is no symptom of uterine inflammation present. The disease invaded the villi of the ovum: and he had seen cases where the children were brought forth dead, yet the placenta was sound. He (Dr. Lee) could not give any satisfactory information on the subject. Dr. Lee next directed attention to another degeneration, the conversion of the villi of the chorion into cysts—a disease of both villi of the chorion and decidua; and that there was no more sure cause of abortion, a very small development causing death of the embryo; that this is a very rare thing, but the particulars of a case of this kind were transmitted to him from the country by a practitioner with whom he was not personally acquainted. A lady had four accouchements, and in each the labour was natural. Six months after her last accouchement, having gone into society, uterine hæmorrhage came on, for which she consulted an homœopath; and, finding some difficulty with the case, he demanded the assistance of another homœopath; and both, by means of instruments, dilated the os uteri, and some serous cysts came away. The lady now becoming in a very faint state, the husband sent for the old medical attendant. Those serous cysts had been attributed to a portion of the placenta being left in the uterus since the last labour; and the homœopaths, to confirm their opinion, sent for a London physician, who, Dr. Lee was informed, gave it as his opinion that the hydatid degenerations were, or might be, caused by a portion of the placenta being left behind six months before. Dr. Lee said he brought this case before the Society, that he might have the opinion of some of the members on this important point, which was novel to him.

Dr. Barnes, after thanking the Society for the attention which it had given to his communication, said that he had read Dr. Quain's paper with much interest, but had not been convinced of the distinction Dr. Q. had drawn between fatty deposition and degeneration. As Dr. B. understood the terms, and as he had observed the conditions in the placentas in question, he was led to consider deposition and degeneration as different stages of the same affection. He felt great diffidence in dissenting from the opinion of Dr. Williams, but he could not admit his explanation that the fatty degeneration was the result of the death of the fœtus, or of previous disease of the placenta. The history of the cases, and the development the fœtus had in both cases attained, satisfied him that the fatty degeneration was the cause of the death of the fœtus; and no evidence of any other disease or morbid deposit was detected in the placentas. Moreover, the affection had been traced in the apparently healthy portions, as well as in those more obviously altered, through every stage, from simple deposition on the walls of the umbilical vessels, their investing chorion, and other proper placental tissues, to actual degeneration and disintegration. Dr. B. referred to another case, in which the affection presented a different phase, and in which fatty metamorphosis of the placenta had undoubtedly taken place after the death of the fœtus. He should beg permission to lay an account of this specimen, which still existed, before a future meeting of the Society. Dr. Lee objected to his paper that he had not referred to the labours of Cruveilhier: he had not neglected to consult Cruveilhier, but had not found in that author the slightest mention of fatty degeneration. Cruveilhier referred all diseases of the placenta to hypertrophy, atrophy, ossification, hydatids, apoplexy, and especially followed Brachet, whose monograph had been referred to by Mr. Streeter, in mainly insisting on inflammation—a disease which Dr. Lee denied, as well as fatty degeneration. He regretted that Dr. Lee should dispute the existence of fatty degeneration in the placenta. He could only appeal to the cases before the Society, and to the faithful delineations of the microscopical appearances of the altered structures submitted by Dr. Hassall: these would speak for themselves. So far from admitting that the cases he had adduced were not examples of fatty degeneration, but, as Dr. Lee asserted, of some other affection, he was disposed to believe that many cases described by authors as cases of scirrhous or fibrinous deposits, might in reality have been instances of fatty degeneration.

The President announced that foreigners connected with the medical profession, by application to the Secretary, would be admitted to the meetings, as well as to the use of the library and rooms of this Society.

MEDICAL SOCIETY OF LONDON.

President—Dr. Murphy.

May 3, 1851.

Aneurism of the Aorta.

Mr. Latty read the history of a case of this disease. The patient had been a military officer, and had served in India twenty years, æt. 41. On physical examination of the chest for some symptoms of lung affection, the right lung proved sound; the left side of the chest, just below the nipple, was remarkably dull on percussion; vesicular murmur could not be heard at that spot. The cough with which he was affected was accompanied by a rusty expectoration, the sputa being streaked with blood; and usually in the morning, after a night's rest, one or two clots of dark blood were coughed up.

About ten weeks after coming under Mr. Latty's care, he spat up a large quantity of arterial blood. Six days afterwards, hæmorrhage of a fatal nature came on, and speedily terminated the patient's existence.

Examination after death discovered an aneurismal dilatation of the arch of the aorta, the presence of which had caused absorption of the rings of the trachea immediately behind it, and had produced a bulging inwards of the lining membrane of the trachea, of an intensely red colour, having four little holes on its surface capable of admitting an ordinary probe. Coagula were found lining the pouch, by which the rapid effusion of blood was prevented, but which allowed of the gradual oozing—one of the symptoms of the case rendering the diagnosis difficult.

Fallacies in Medicine and Homœopathy.

Dr. **Routh** read a paper "On Some of the Fallacies in the Modern Practice of Medicine, more especially Homœopathy, and in Estimating the Results of Practice by Imperfect Statistical Inquiry."

Dr. Routh stated that, on a careful investigation, the tables put forth by the homœopathic practitioners were found by him to be well calculated to mislead; and that, in selecting their data, sufficient consideration was not given to the differences of locality, the prevailing diathesis of disease, and the powerful influence of the imagination over the ailments of the body. He instanced some remarkable cures effected by the "aqua mirabilis," or coloured water, and the inapplicability of homœopathy in the treatment of the diseases of brute animals.

The homœopaths gave an average mortality from 4 to 6 per cent; the allopaths from 7 to 9 per cent., though occasionally as low as 2 per cent.; these data being derived from the hospital reports, both at home and abroad: but the comparison of these results was vitiated by the circumstances that, 1st, the homœopaths excluded all moribund cases; 2d, the severity of cases was not so great; 3d, greater regard to individual comfort was paid in the homœopathic hospitals, no examination beyond that made by the medical attendant being inflicted on the patients; 4th, the patients were younger, and of a superior class.

He then alluded to the homœopathic returns for pneumonia, which had made so many perverts among allopaths. Homœopaths were fond of quoting Grisolle's 304 cases, with a mortality of 13 per cent. Dr. Sampson had collected 909 from Briquet, Grisolle, the Edinburgh Infirmary, and Skoda, giving a mortality of 23 per cent. In opposition, Fleischmann's cases were quoted—300, with a mortality of 6 per cent; or from a larger collection, including the results of three other hospitals, 970 cases, with a mortality of 43, or 4 per cent. Many of the reasons above given would explain this: some required, however, particular mention.

1st. Pneumonia in Austria is seldom complicated; usually simple idiopathic. This he attributed to the extreme rarity of Bright's disease of the kidney in that country; and, in many returns, the complicated were usually classed under the head of the fatal complications, and thus escaped notice. The complicated were only distinguished from the idiopathic in the Linz returns. From 1843-6 there were 93 cases of idiopathic; only 8 of complicated: proportion, 8 per cent. In Dr. Tessier's 41 cases, the proportion was 14·6 per cent. In 140 he had collected, occurring in the practice of Drs. Taylor, Walshe, and Peacock, 55 per cent. were complicated. This would explain the difference of mortality. The cases of the Glasgow Infirmary, so often quoted by homœopaths, from 1843-45, were mostly all complicated, chiefly typhoid, and many brought in moribund.

2d. Age was most important in pneumonia. The mortality was high above 40; low before it, excluding children. The army returns gave the mortality out of 12,000 cases as 1 in 29, sometimes as low as 1 in 45; the navy, 1 in 26; sometimes as low as 1 in 59, out of some 3000 cases. The best homœopathic return was 1 in 22; Fleischmann's, 1 in 16, and these were simple cases; the others mixed.

3d. Sex was another most important feature. The distinction was not made by homœopaths. There were 75 males usually seized by pneumonia to 25 females; but the per-centage of mortality among females was more than double. Indeed, by comparison in the Registrar-General's returns for 1843 and 1844, calculating from 8000 fatal cases, the different numbers of persons living at each age, the per centage mortality to seizure from pneumonia, excluding children, was 100 males to 211 females. In Dr. Tessier's 41 cases, 3 only were females; and, if we took Fleischmann's 19 cases, recorded by Dr. Balfour, as a sample of all, the results from the preponderance of males would be 4 per cent. too favourable.

Dr. Routh then gave an analysis of Tessier's 41 cases. There were 3 deaths; the cases were, 4 only of double pneumonia, 1 fatal; 30 of simple idiopathic single, 1 fatal; 1 secondary and fatal; 5 complicated. Of these 38 successful, 1 died, before leaving the hospital, of phthisis; and another, of erysipelas: giving thus a mortality of 1 in 8. In the 38 besides, 6 had been treated also allopathically, and should be excluded; leaving 35 cases, 5 deaths, or 1 in 7. The cases treated allopathically had a shorter duration of treatment, and left the hospital sooner after convalescence. For so many cases of idiopathic, and with so many males, this was high. On the other hand, the analysis of 141 cases in the practice of Drs. Taylor, Walshe, and Peacock, gave 43 deaths: mortality, 1 in 3; but in this number (141) there were 33 cases of idiopathic single pneumonia, 14 idiopathic double, 2 deaths, among males: mortality, 1 in 23: among the females, 5 of idiopathic single, none of double pneumonia: general mortality for idiopathic, 1 in 25. There were 9 cases of simple pleuro-pneumonia among males, and no deaths; giving a general mortality of 4 per cent. only. The remaining were complicated: 52 cases, 30 deaths among males, or 1 in 1·7; 26 cases, 12 deaths, among females; mortality, 1 in 2: total, 78 cases, 42 deaths, or 1 in 1·8. In 127 cases the age was stated:—61 males under 30, 35 above; 17 females under 30, 14 above; or 78 under 30, 49 above. After some remarks on the inert treatment observed in such cases by the Viennese allopaths, Dr. Routh concluded by giving examples where, under divers treatment, the mortality with Laennec, Wolf, Bouillaud, Louis, Boug, Husson, had been occasionally very low; adducing also the 11 of Grisolle, cured by emollients only. Declining, however, to deduce conclusions from small numbers, he finished by stating that idiopathic simple pneumonia under 40 was a very benignant disease; instancing the cures effected by drinking cold water only in many of these cases, as recorded by the Belgian Commission, Drs. Moreta and Compagnani, in Italy. The best treatment in these cases appeared, from the researches of Dr. Dietl, of Vienna, the allopathic physician to the Wieden Hospital, to be simply the dietetic. Dr. Dietl (he quoted from Dr. Roth) had treated 85 cases of pneumonia by blood-letting, with a mortality of 20·4 per cent.; 106 by tartar emetic, mortality 20·7 per cent.; and 189 by simple and strict dietetic regimen, mortality only 4·12 per cent. The bleeding often made the pneumonia complicated. He concluded by stating that the homœopathic returns should be more carefully analysed before credit was given them: he admitted the excellence of their dietetic regimen, but attributed their success wholly to the powers of nature, and their selection of cases; and added, that perhaps, even amongst ourselves, some good might result by trusting more to nature and diet, where this could be with safety done.

May 10, 1851.

DR. MURPHY, PRESIDENT.

Paper of the evening, by Dr. DOWNING —*Catalepsy in Relation to other Disorders of the Nervous System.*

The extraordinary phenomena presented in cataleptic cases had caused very different views of the patient to be taken by unprofessional parties; some looking upon them as under the influence of a supernatural power, while others view them in the light of impostors. The doctrine of Cullen,—that all cases of catalepsy were instances of feigned disease,—the author could hardly give his assent to; he thought it quite impossible to account by that theory for all that had been observed in such cases. There were certain symptoms that possibly might be counterfeit; but still others existed which could not be imitated for a considerable length of time by a patient, however good an actor he might be. The disease might be genuine, although some of the coincident symptoms were assumed by the patient. There is a tendency frequently to be discovered to exaggerate particular symptoms in nervous affections. This tendency to exaggeration actually forms part of the complaint. Dr. Downing looked upon all species of catalepsy to be intimately related; they frequently passed one into the other, and were probably all owing to the same pathological causes. The passive energy of the muscular system which allowed the joints to be fixed in any position, as though the body were formed of lead or wax, was the distinguishing characteristic of the disease; it was an intermittent disorder never apparently affected by any law of periodicity. The frequency and duration of the fits were very various: Stearns and Bouvier had observed from 10 to 100 fits in an hour; the author had seen one which had lasted four months. Although recovery generally took place, the worst forms of the disease might degenerate into epilepsy, apoplexy, or confirmed insanity. He had met with two cases which had ended in the death of the sufferer. The predisposing causes were such agents as tended to weaken the body but excite the mind, acting upon a highly nervous temperament:—sex,—females being more obnoxious to the disease than males, violent mental impressions, terror, suppressed rage, and the like. Fornelius and Bonetus had recorded illustrations of the above. Amongst the physical causes of the disease might be mentioned the increased impulse of blood on the brain, worms in the alimentary canal, ungratified passions, and uterine disturbance. The cause might be either centric or excentric, physical or moral: the cataleptic condition might be produced by the agent called animal magnetism or mesmerism. The results of *post-mortem* examination had revealed nothing conclusive or satisfactory. Dr. Downing looked upon catalepsy as a disorder of function, and therefore the evidence of organic change was not invariably to be expected. He was of opinion that some part of the nervous system was under the influence of unnatural irritation, but which was so evanescent in its nature, that no trace of its existence or exact locality could be discovered. The suddenness of the accession of the attacks, and their abrupt termination, indicated the correctness of this view.

The alliance of the disease with hysteria and insanity was most worthy of attention. In respect to the first of these, catalepsy and hysteria occurred in the persons of the same kind of constitution and temperament, are convertible into each other, and are similarly affected by treatment. From the fact that catalepsy so frequently commences in, is complicated with, and terminates as, hysteria, combined with the circumstance of the phenomena being confined to the muscular system, Dr. Downing was inclined to hazard the conjecture that catalepsy was identical with hysteria; but that its attacks are restricted to the motor or efferent system of nerves, or rather to that portion of the nervous system which regulated muscular tonicity. The affinity between catalepsy and insanity had been shown by cases recorded by Drs. Gooch, G. Burrows, Boerhaave, Frank, Behrend, and Pinel.

The diagnosis of catalepsy was oftentimes most difficult, and was rendered the more complicated by the wilful deception practised so frequently by the patient. In discriminating between cadaveric rigidity and cataleptic immobility some amount of caution was requisite. The *treatment* the author advises should be regulated by the theory that catalepsy is but a form of hysteria. The great object is to support the strength of the patient, so as to enable nature to overthrow the disease. Many most wonderful cases were to be found in works having reference to the subject: the author had seen many cases, but he would relate to the Society the most extraordinary one that had fallen under his notice:—

The subject of the history was a male, æt. 25, son of an English merchant, educated at France; he had become liable to epileptic fits, from supposed scanty nourishment while at school abroad. Through disappointed affection, religious enthusiasm, and the excitement of business, ambitious monomania developed itself: further restraint was employed. In the April of last year the patient was found in his bed in a state of trance or perfect torpor, which persisted during four weeks, when he awoke to his previous condition. On the 5th of July a fresh seizure came on, attended with slight rigidity of the limbs. By the 2nd of October the cataleptic phenomena were fully developed, and gradually increased till his death in February of this present year.

During four months and fourteen days the patient lay on his back perfectly rigid and immoveable; his evacuations passed involuntarily, and he could be fed only by the stomach pump. Yet there is every reason to suppose that he was quite conscious during the whole period, for when the jaws were free from spasm he was able to speak rationally. No inspection of the body could be obtained.

Dr. **Camps** did not agree with the author of the paper when he doubted the existence of organic change in cases of catalepsy. He condemned the too hasty removal of mentally-affected patients to lunatic asylums: he considered the restraint of the patient in the case related by Dr. Downing had acted prejudicially.

A **Visitor** supported Dr. Downing's views by narrating an instance of temporary cataleptic rigidity, produced by the inhalation of sulphuric ether as an anæsthetic.

Dr. **Snow** suggested that the spasm should have been relieved (in Dr. Downing's case) by the exhibition of the vapour of chloroform two or three times a day, to obviate the forcible introduction of food.

Mr. **Gay** narrated an interesting case, supporting Dr. Downing's view of the disease.

Mr. **Dendy** instanced a case in which, after a cataleptic attack, a great change had taken place in the conduct and disposition of the patient; and, from this, he was inclined to think that the disease had originated in organic mischief.

Dr. **Forbes Winslow** observed that, having had the advantage of seeing Dr. Todd's case of catalepsy, just narrated, and being much interested in the subject, he would make a few remarks in relation to it. It was a well-established fact that catalepsy, in its *true* and pure form,—unmixed and uncombined catalepsy,—was a rare affection. So rare did Dr. Cullen consider the disease, that he maintained it never in reality occurred; that those cases which are considered and termed catalepsy are always instances of feigned and simulated disease. Without assenting to so sweeping an observation, he (Dr. W.) would nevertheless admit that catalepsy was frequently feigned: true and unmistakeable instances of the disease, however, are upon record. The affection frequently manifested itself in hysterical women, and also in men having the hysterical temperament. It was a disease nearly allied in its symptoms and progress to those anomalous disorders of the nervous system included within that somewhat obscure but comprehensive term—*hysteria*. In this protean malady there was generally a disposition to exaggerate the nervous symptoms; and in many cases the disease was simulated altogether. In the affections termed cataleptic, ecstacy, trance, and other analogous and allied conditions of nervous derangement, there was generally associated with the true tetanic rigidity of the muscular fibre some degree of importance. Dr. Winslow did not consider the case of catalepsy under consideration to be true and unmixed in its character: it could not be so designated. It was associated with both epilepsy and insanity. Independently of this, he (Dr. W.) thought it possible that in this case the symptoms were to a certain extent feigned. Dr. Downing had spoken of the case as one unexampled in its duration; but he (Dr. W.) thought the one which Professor Huss, of Stockholm, had recorded to be more extraordinary. Professor Huss's case of catalepsy was of thirteen years' duration. Other instances were to be found in the medical journals, equally, and, perhaps, more extraordinary, than the one under review. The author of the paper had cited a remarkable feature in connection with the case—viz., that of the catalepsy having preceded the attack of insanity. This was not so rare an occurrence as was supposed. Jos. Frank had related a case of a man, who, struck by a feeling of remorse whilst hearing a sermon, rushed out from the church, and was seized with a paroxysm of catalepsy at the door. His limbs became as stiff as iron, and remained in any position in which they were placed.

The man subsequently became deranged. Dr. Forbes Winslow had often seen cataleptic symptoms precede attacks of insanity: he referred to those cases of morbid tonicity of the muscular system associated with or caused by hysteria; but unmixed and uncombined catalepsy he had never seen precede a maniacal seizure. Tetanic spasms and rigidity of the limbs he had often witnessed in connection with certain morbid states of the brain, both with and without disordering the mind. With regard to the pathology of the case it was difficult to speak; these affections were necessarily very obscure. Unfortunately no post-mortem examination was permitted; so, in forming an opinion of the probable condition of the brain or spinal cord, he could only reason from analogous cases, and apply to the elucidation of the difficulty a general principle of cerebral physiology.

Two of the preceding speakers had stated as their opinion, that in this case there was undoubted softening of the brain; and one gentleman came to this conclusion from the fact of the delusions of the patient being of an ambitious character. It was true that, in insanity which generally accompanied ramollissement of the brain leading to general paralysis, the ideas of the patient were frequently, and most always, exalted; the patient would entertain notions of high rank unbecoming her station in life, or be impressed with ideas of being possessed of vast wealth. It would, however, be illogical to assert that this pathological condition of the brain existed simply because the patient, as in the case before the Society, had extravagant notions of his prophetic character. Dr. Winslow would feel disposed to attach more importance to the morbid spasm and rigidity of the muscles, as evidences of an organic change in the nervous tissue partaking of ramollissement. Looking at the character of the insanity as well as the catalepsy, Dr. Winslow would be inclined to say that there existed in this case no well-marked pathognomonic symptoms of softening of the brain. The man had up to the period of his death a clear and vigorous intellect. When consciousness was manifested a short period before he was seized with the last attack, which terminated fatally, he gave evidence, not only of the absence of impairment of mind, but of a shining intellect. He conversed on various topics, manifested much intelligence, and spoke on scientific subjects with considerable ability and strength of understanding. Certainly these were not the symptoms of an organic disease like ramollissement of the brain, and ramollissement to such an extent as to produce that severe cataleptic condition. In this case, if there had been ramollissement of the brain, there would in all probability have been a degree of impairment of the mind, as well as an affection of the motor power apart from that loss of control over the voluntary muscles the result of catalepsy. True as well as combined catalepsy arose from various morbid states of the nervous system. It was frequently the effect of congestion of the brain,—effusion, irritation, ingestion of the spinal cord,

&c. It had often an eccentric origin. In illustration of this, Dr. Winslow cited a case of long-continued and severe catalepsy, which was suddenly cured upon the patient vomiting a clot of blood. It also was occasioned by irritation established in a remote part of the system, affecting some of the great nervous centres. It is known to be often the result of worms; and in early life the irritation of dentition produces severe spasms and morbid rigidity of the muscles. In many cases of catalepsy we must look to the heart for the source of the disease. Certain morbid conditions of the blood would also give rise to the affection. Alterations in the delicate structure of the brain and spinal cord were sometimes the consequences of an abnormal state of the blood affecting nervous nutrition, and thus producing disorders of the cerebro-spinal system.

ACADEMY OF MEDICINE, PARIS.

May 6, 1851.

Hypertrophy of the Mammæ cured by Extirpation.

M. Robert read a report on a case communicated to the Academy by M. Bouyer, late surgeon to the Royal Marines at Saintes.

The patient, S. R., had a good constitution, and had menstruated at the age of eighteen years. Four months afterwards, without any apparent cause, the catamenia had disappeared. The mammæ, which until that time had been but slightly developed, became the seat of pain, and began to enlarge,—first the left breast, then the right,—at such a rate that at the end of a year the left breast presented a measurement of 45 centimetres (= 17·716 Eng. inches) from the base to the nipple, and 80 centimetres (= 31·496 Eng. inches) in circumference. The right breast was only one centimetre short of the same dimensions. Both breasts were pyriform, of a reddish violet hue, and traversed by numerous subcutaneous veins. They presented a soft consistence on the surface, but deeper many hard nodules could be felt, about the size of nuts, and connected by firm cords. At the end of three years these glands had so enormously increased as completely to cover the abdomen; and their weight, each exceeding fifteen kilogrammes (more than thirty pounds avoirdupois), had compelled her to keep her bed for the previous two years. Her general health was good, but she had become somewhat emaciated

Both breasts were removed after a short interval between the two operations. The wounds had completely healed in two months. The catamenia had reappeared, and the health was completely re-established. The left breast weighed thirty pounds and a half; the right twenty pounds and a half. They consisted of fat, in the midst of which were embedded nodules of the glandular structure extremely hypertrophied.

Variations in the Size and Form of the Female Pelvis.

M. Devilliers, candidate for the vacant place in the obstetric section, read an essay in which he endeavoured to indicate the deviations which are presented, and the laws which govern, these variations in size and form of the human pelvis. The following are the author's principal conclusions:—1. It is frequently seen that the sacro-pubic diameter falls below 109 to 95 millimetres (from 4 to 3¾ inches) without presenting any traces of deformity or softening of the bones. More than half the pelves examined presented these small measurements. 2. More than three-fourths of the pelves had a coccy-pubic diameter under four inches. 3. The bi-iliac superior diameter presented very little variation, being generally from 129 to 130 millimetres. 4. In two-thirds of the cases the bi-ischiatic diameter was below three inches six lines. 5. The oblique diameters of the superior strait has been found rather greater than its ordinary numbers. 6. It is very remarkable that the left oblique diameter is greater than the right in more than half the cases, frequently exceeding the latter by six or eight millimetres. 7. There is no regularity in the difference of the oblique diameters of the lower aperture. The differences of measurement of the prepared pelvis are owing to the drying of the ligaments. The size and form of the pelvis varies greatly from those usually assigned by authors without the existence of disease.

SURGICAL SOCIETY, PARIS.

April 30, 1851.

Facial Autoplasty.

M. Chassaignac concluded the reading of his essay on this subject. This work consisted of a series of cases, with reflections thereon, and was referred to the committee on publications. We refer, however, to one case mentioned by M. Chassaignac, in which he had effected complete occlusion of the orbit by the means of autoplastic flaps. In this patient an aperture existed on the inner plate of the orbit, and through which the secretions found their way to the nasal fossa. M. Chassaignac deduced from this case the principle that, in all cases of occlusion of the orbit, an artificial opening should be formed for the passage of the secretions.

The author submitted, also, that whenever no substance remained for the support of an artificial eye, that it is desirable to obtain perfect occlusion of the orbit.

With reference to the first point, several members considered it unnecessary to practise perforation of the os unguis. But no case of occlusion was cited in which the lachrymal gland had not been removed. M. Maisonneuve related a case in which nearly complete union of the eyelids relieved the blindness caused by deformity resulting after a burn. M. Maisonneuve also stated that an artificial eye may be worn, although there remain no stump of the globe or nerve. M. Monod concurred in the opinions of M. Maisonneuve.

ACADEMY OF SCIENCES, PARIS.

May 5, 1851.

The Presence of Iodine in the Air, and its Absorption in the act of Respiration.

M. Chatin read an essay, in which he observed that iodine must be slowly but constantly diffused in the air by evaporation from the waters which naturally contain it, and that this is proved by its detection in rain-water. M. Chatin estimated that $\frac{1}{45}$th of a milligramme (= 0·015 Eng. grs.) is diffused in the 4,000 litres (a litre is equal to $2\frac{1}{8}$ wine pints, or about 60 cubic inches) of atmospheric air which ordinarily pass through the lungs in twelve hours. This quantity is about equivalent to the proportion of iodine contained in a litre of ioduretted water. The iodine becomes fixed in the system by the act of respiration. The gases expired, M. Chatin stated, contain only a fifth part of that inhaled. The air of ill-ventilated and crowded places is deprived of its due proportion of iodine. Rain-water contains a larger proportion of iodine than other soft water; and this proportion serves as an indication of the degree of ioduration of the atmosphere of a given region. The air of inland places contains more iodine than that of the sea-coasts, the difference being attributable to the more ready diffusion of the iodine of fresh than of salt water. In long-continued rain, that which falls first is more ioduretted than that which falls last. The iodine in rain-water can be fixed by the addition of a thousandth part of carbonate of potash to the cistern. Snow contains less iodine than rain. Dew contains iodine. The great', the principal sources of the iodine of the air, are those waters which have a constant tendency to part with the whole of their iodine—*e. g.*, soft waters, and those which give up only a part, *e. g.*, sea-water. A double current exists in the atmosphere where otherwise the iodine would tend to accumulate, unless precipitated periodically by the rain, snow, &c. The primary source of iodine is the central nucleus of the earth, or the primitive igneous rocks: it is found in smaller proportions in the sedimentary rocks. Further observations are required to determine whether iodine exists in the atmosphere in a free state, or as hydriodic acid, or as an hydriodate of ammonia, or in combination with some volatile organic base.

Carbuncular Diseases of Domestic Animals.

M. Delafond, Professor in the Veterinary School of Alfort, transmitted a work containing an account of experiments instituted with a view to the determination of the question whether the carbuncular disease now extensively prevalent and fatal among the poultry in the Department of Seine-et-Oise be identical with the carbuncular disease of higher animals. The inoculation of higher animals with blood and secretions taken from infected fowls had produced the same disease in the former.

Hospital and Infirmary Reports.

CLINIQUE DES DÉPARTEMENS.

Case of Acephalocyst of the Liver — Opened by means of Caustic Potash and Incision—Discharge of more than Sixty Cysts, and a large quantity of Bile. By Dr. Morisseau, of La Flèche.

In the month of June, 1849, M. Morisseau was consulted by a butcher, who had complained, for about eight months, of oppression and a dull pain in the abdomen. The cause of these feelings was a tumor situated in the right hypochondrium, very evident to the touch, almost insensible to pressure, and offering distinct fluctuation. The patient had not observed the presence of the tumor. The digestive functions were duly performed, with the exception that a full meal increased the degree of oppression. His appetite had been good; he slept well, and could walk without inconvenience: he had no appearance of jaundice. The state of the heart, lungs, urinary organs, &c., offered nothing unusual; there was no œdema. M. Morisseau being satisfied of the presence of fluid, applied a portion of caustic potash, and then made an incision into the eschar. Instead, however, of a discharge of fluid, as he had anticipated, a membrane was protruded, which offered the characters and aspect of the membrane of an egg that has been denuded of its shell. Surprised at this appearance, he thought he had to deal with an intestinal hernia, and applied his hand over the opening to repress it. In spite of his efforts, a soft, elastic body, of the size and shape of a hen's egg, slipped between his fingers. While he was examining it, about fifty more hydatids, varying in size from that of a nut to that of a small pear, were discharged by the opening in the course of a few minutes. A suitable apparatus was adjusted, and the patient was kept in a horizontal posture. During three days, fresh cysts continued to be so discharged, so that they amounted to upwards of sixty, all of which, judging from their appearance, were healthy. From the date of the discharge of the last cyst, the dressings were daily saturated with bile, to the amount of about four ounces daily. This discharge continued for six weeks, without any functional derangement being perceived. The patient got thin, but he continued to eat and drink, and to walk about as usual. At the end of two months, the wound healed, the patient's health became re-established, and he regained his flesh.

About two years ago, M. Boys de Loury read a case very similar to the above, to the Medical Society of Paris. The patient was also a butcher. Dupuytren has observed, that persons of this calling are the most frequent subjects of these growths. Statistics, however, do not confirm the observation; for, of fifty-eight cases, it was found that the occupation of the patients presented almost as great a variety. M. Morisseau conjectured that these cysts were situated in the biliary duct; but had this been the case, the bile would have been discharged from the orifice at first. It appeared more probable that a large cyst existed, with which the duct communicated by a fistulous communication that had been closed by the last cyst. However this may be, there is no doubt that the patient owed his life to the active and scientific treatment adopted by M. Morisseau. Had the cyst not been opened at the time it was, the escape of bile into its cavity might at any time have set up an acute and fatal inflammation.

Medical Intelligence.

UNIVERSITY OF ST. ANDREW'S.

MEDICAL EXAMINATION PAPERS.

May, 1851.

First Examination.

To be translated into English.—Implet autem corpus modica exercitatio, frequentior quies, unctio, et, si post prandium est, balneum, contracta alvus, modicum frigus hieme, somnus plenus et non nimis longus, molle cubile, animi securitas, assumpta per cibos et potiones maxime dulcia et pinguia, frequentior cibus, et, quantum plenissime potest, digerere.

Extenuat corpus aqua calida, si quis in eam descendit, magisque si salsa est: in jejuno balneum, inurens sol, et omnis calor, cura, vigilia, somnus nimium vel brevis vel longus: lectus, per æstatem, terra; hieme, durum cubile: cursus, multa ambulatio, omnisque vehemens exercitatio, vomitus, dejectio, acidæ res et austeræ, et semel die assumptæ epulæ, et vini non perfrigidi potio jejuno in consuetudinem adducta.

1. What are the general characters of Alkalies? Give the names and composition of the ordinary Alkalies.

2. What is the composition of Sulphuric, Muriatic, Oxalic, Prussic, and Tartaric Acids?

3. In what manner is Morphia prepared from Opium? and by what tests can it be distinguished?

4. Name the Emetics included in the Pharmacopœia, and state the doses in which they should be prescribed. Mention the purposes for which they are generally ordered, and the cases in which their administration may prove dangerous.

5. What are Croton Oil, Aloes, Jalap, Gamboge, Scammony, and Elaterium? Name the cases in which they are specially applicable, and the form and dose in which you usually prescribe them.

6. Write a Latin prescription (without using abbreviations) for an expectorant mixture suitable for a case of Chronic Bronchitis; also for a warm aperient draught.

Second Examination.

1. What bones enter into the composition of the Orbit? Describe the distribution and functions of the different Nerves found within this cavity.

2. Describe the parts brought in view on opening the Right Auricle. What are the causes of the Sounds of the Heart?

3. With what Organs is the Liver in contact? Describe its Ligaments, Fis-

sures, and Vessels. What is the Capsule of Glisson? Describe the physical and chemical characters of the Bile, and state the uses of this secretion.

4. Describe the relations of the Internal Iliac Artery to the adjacent parts. Name its most important branches and the structures which they respectively supply.

5. What is the chemical constitution of Healthy Urine? Describe the means of distinguishing the ordinary urinary deposits.

Third Examination.

N.B.—The Examiners expect that, in the answers to the practical questions, every Candidate will specify the mode of treatment he is in the habit of adopting and the doses of the medicines which he prescribes.

1. Describe the modes in which defective cleanliness, ventilation, and drainage, excite disease.

2. What are the symptoms, causes, and treatment of the different forms of Iritis?

3. Describe the symptoms, diagnosis, causes, treatment, and pathological anatomy of Acute Laryngitis.

4. Describe the symptoms, diagnosis, causes, and treatment of Enteritis.

5. Mention the predisposing causes, symptoms, and treatment of the various forms of Intestinal Entozoa.

6. What are the constitutional symptoms and the dangers arising from Burns and Scalds of different degrees of intensity, and what are the general indications in regard to treatment?

7. To what diseases is the fœtus especially liable? What are the signs of the death of the fœtus?

8. What are the cases in which the operation of Craniotomy is demanded? At what period of labour should it be performed? State the reasons why it is more dangerous than the application of the forceps.

CONVERSAZIONES AT THE COLLEGE OF SURGEONS.

We have to announce that it is the intention of the President and Vice-Presidents of the College to give a series of Conversaziones, for the purpose of receiving such distinguished members of the profession as may visit London during the present season, and to which the members of the College will be admitted on presenting their cards. The first meeting will take place on Wednesday, June 11th, on which occasion Professor Owen will deliver a lecture on Metamorphosis and Metagenesis; to be followed, on Wednesday, July 9th, by Professor Paget, who will give a lecture on the Recent Progress of Anatomy, and its Relation to Surgery. On Wednesday, August 13th, Mr. Quekett will deliver a discourse on the Organic Basis of the Vegetable and Animal Skeletons, with microscopic illustrations.

UNIVERSITY COLLEGE HOSPITAL.

A dinner, for the benefit of the University College Hospital, was held last week at the London Tavern. A printed paper was handed round, in which it was stated that for the last three years the hospital had been hampered by a debt of £3,000, and that it was for the purpose of ridding themselves of this debt, without prejudicing the efficiency of the charity which has so materially contributed to the relief of the poor, and to the improvement of medical education, that the committee appealed to the public for the requisite aid. It was stated in the same paper that the hospital contained room for 200 beds, but that owing to its limited resources only 120 patients could be supported at a time. Nevertheless, no less than 18,638 persons had, in the course of the last year, availed themselves of the assistance of the hospital, and of these 1,194 were in-patients. Mr. Hankey, the chairman, having addressed the assembly most impressively in support of the institution, the treasurer's report was read, from which it appeared that the sum of £1,010 in donations and subscriptions was presented to the hospital in the course of the evening.

ALLEGED UNCERTAINTY IN MEDICINE.

Dr. Thompson, President of the New York State Medical Society, in an address at the last annual meeting of the Society, thus compares the medical profession with the other professions in regard to certainty in its results:—

"When compared with the other professions, its character is vindicated, and it rises in our estimation, for it may be questioned whether the results of its practice are any more doubtful than those of the law, which has also been stigmatized for its 'glorious uncertainties.' In a subject like theology, which treats of man's eternal destiny, concurrence of opinion might be expected. Its doctrines, however, find no more agreement among theologians and polemical writers than do the accredited principles of medical science among well-informed and cultivated medical men. In the science of politics, in the laws which regulate the commerce and mutual intercourse of nations, in the systems and processes of agriculture, in the arrangement of society, and its government by laws whose principles and modes of action shall prove most successful in directing its interests and regulating its business affairs, men differ widely in their judgments, and the greatest dissimilarity of opinions prevails. Why, then, amid this discrepancy of judgments, and difference of opinions, should medicine be held up above all, conspicuous for its uncertainties, or for its lack of settled principles?"

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 9th inst.:—Messrs. T. White—E. Long—F. W. Wilders—G. Brennan—R. Jackson—E. Ralf—T. Britton—J. Davis—J. Silverman—L. Armstrong.

OBITUARY.

On Saturday, the 17th inst., Dr. Edward Clark Baker, late of Walcot Terrace, aged 48, of consumption. His loss will be seriously felt by the poorer class of his patients, who at all times received at his hands the kindest sympathy with their sufferings, and the strictest attention to their necessities.

On the 16th inst., at York Terrace, Regent's Park, Charles Shillito, M.D., formerly of the West Essex Militia, and late of Putney, aged 69.

BOOKS & PERIODICALS RECEIVED

FOR REVIEW

DURING THE LAST TWO WEEKS.

Practical Remarks on some Exhausting Diseases. By Sir Jas. Eyre. 2d Edition.

On the Diagnosis of Inflammatory Diseases of the Cervix Uteri. By J. H. Bennet, M.D.

On Bubo. By John L. Milton.

Cases of Vesico-Vaginal Fistula. By Geo. Hayward, M.D.

On the Prevention and Cure of Spinal Curvatures and Deformities of the Chest. By Mrs. Godfrey.

The Building Fund of the Kent Ophthalmic Hospital. Address of the Committee.

The Dublin Quarterly Journal of Medical Science. No. 22, May 1851.

The New York Register of Medicine and Surgery. No. 12, April 1851.

Boston Medical and Surgical Journal. April 1851.

Verhandlungen der physicalisch medicinischen Gesellschaft in Würzburg. Von A. Kölliker, J. Scherer, R. Virchow. Nos. 6—13. Erlangen.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 14, 15, and 16; 5, 12, and 19 April.

Henke's Zeitschrift für die Staatsarzneikunde. 1851. 2tes V. H.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, **May 17.**

Births.		Deaths.	
Males....	752	Males....	555
Females..	715	Females..	447
	1467		1002

Causes of Death.

All Causes	1002
Specified Causes	997
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	196
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	42
2. Brain, Spinal Marrow, Nerves, and Senses	120
4. Heart and Bloodvessels	39
5. Lungs and organs of Respiration	176
6. Stomach, Liver, &c.	52
7. Diseases of the Kidneys, &c.	7
8. Childbirth, Diseases of Uterus, &c.	3
9. Rheumatism, Diseases of Bones, Joints, &c.	7
10. Skin	0
11. Premature Birth	21
12. Old Age	42
13. Sudden Deaths	7
14. Violence, Privation, Cold, &c.	44

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	15	Convulsions	40
Measles	37	Bronchitis	72
Scarlatina	9	Pneumonia	77
Hooping-cough	64	Phthisis	153
Diarrhœa	15	Lungs	7
Cholera	0	Teething	8
Typhus	30	Stomach	7
Dropsy	13	Liver	9
Hydrocephalus	36	Childbirth	3
Apoplexy	30	Uterus	0
Paralysis	12		

Remarks.—The total number of deaths was 122 *above* the average mortality of the 20th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·96
" " " Thermometer[a]	50·9
Self-registering do.[b] .... Max. 85· -Min.	21·

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·07.—Sum of the daily observations taken at 9 o'clock.

Meteorological.—The mean temperature of the week was 3° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. Thornton's explanatory letter shall appear in the following number.

Mr. Thomas Balman.—The paper has been received, and shall have early insertion.

Communications have been received from Sir James Eyre, Dr. Barnes, Dr. F. J. Brown, Mr. Lane, and Mr. John Woolcott. These shall have our early attention.

Lectures.

LECTURES ON TUMOURS,

Delivered in the Theatre of the Royal College of Surgeons of England.

By James Paget,

Professor of Anatomy and Surgery to the College.

Lecture I.

Classification of tumours—Their distinction from adapted hypertrophies, and from those connected with inflammatory exudations; their property of independent growing; their independence in development, maintenance, and degeneration. Relation of tumours to certain hypertrophies of organs, and especially of the thyroid and other glands: their arbitrary distinction from these. Division of tumours into innocent and malignant. Characters of malignant tumours: (a) *assumed heterology of texture;* (b) *infiltration;* (c) *proneness to ulceration;* (d) *peculiarities of the ulcer;* (e) *multiplication and reproduction;* (f) *indifference to locality. Value of each and all of these characters. Theories of the origin of tumours.*

Division of tumours generally innocent, into cysts and solid tumours; and of cysts, into simple or barren, and compound or proliferous: subordinate groups of each. Division of solid innocent tumours into fatty, fibro-cellular, fibrous, fibroid or fibro-plastic, cartilaginous, osseous, glandular, and vascular or erectile: subordinate groups of each. General distinctions of tumours and outgrowths. Objections to this method of classification: its greater advantages.

Mr. President and Gentlemen,—In the courses of lectures which I have had the honour of delivering in this College, I have endeavoured to illustrate four principal series of those specimens in the Museum which are devoted to general pathology. Following still the arrangement of the Museum, I propose now to speak of Tumours, the examples of which form one of its richest and most interesting series.

I will first, with your permission, speak of the general nature and classification of tumours—of the method by which, without pretending to the accuracy of the zoological arrangement of species, which we may seem to imitate, we may yet place these diseases in groups, and give to each group a name.

The class of diseases which includes the tumours may be reckoned as a part of the great division named Hypertrophies or Overgrowths. All its members consist in additions to the organised materials of the body, and appear to be expressions of a morbid excess of its formative force; but, in the case of each hypertrophy, the mode is peculiar in which this excess is manifested. If we compare any tumour with one of the hypertrophies that are least morbid—with one of those, for instance, in which the excessive growth is adapted to some emergency of disease, as an hypertrophy of the heart is adapted to some emergency of the circulation—we shall, I believe, always see between them this chief difference; that, to whatever extent the adapted hypertrophy may proceed, the overgrown part maintains itself in the normal type of shape and structure; while a tumour is essentially a deviation from the normal type of the body in which it grows, and, in general, the longer it exists the wider is the deviation. A striking illustration of this contrast may be found in some of the cases of fibrous tumours that grow into the cavity of the uterus.* Such a tumour may resemble in its tissues the substance of the uterus itself, having well-formed muscular and fibrous tissues; and, so far as the structures formed in excess are concerned, we might regard the tumour as the result of an hypertrophy not essentially different from that which, at the same time and rate, may take place in the uterine walls around it. But an essential difference is in this—the uterus, in its growth around the tumour, maintains a normal type, though excited to its growth, if we may so speak, by an abnormal stimulus: it exactly imitates, in vascularity and muscular development, the pregnant uterus, and may even acquire the like power; and at length, by contractions, like those of parturition, may expel the tumour, spontaneously separated. But the tumour imitates in its growth no natural shape or construction: the longer it continues the greater is its deformity. Neither may we overlook the contrast in respect of purpose, or adaptation to the general welfare of the body, which is as manifest in the increase of the uterus as it is improbable in that of the tumour.

Herein we seem to discern an essential

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* Such as (*e. g.*) No. 2662 in the College Museum. Respecting the conditions in which the changes in the uterus here described are likely to occur, see Rokitansky, Pathologische Anatomie, iii. 545.

difference between the overgrowths of tumours and those accomplished by any exercise of the normal reserve-power of nutrition in a part. This power, capable of acting in any emergency, is not a mere capacity of production, neither is it dependent upon circumstances for the fashion of its products; identical with that which actuated the germ, it is equally bound to conformity with the proper type of the part or species in which it is exercised.

An equal contrast may, in general, be drawn between the class of diseases that includes tumours, and all the others that issue in a morbid excess of nutritive formation. We may take, as the example of these, the inflammatory diseases attended with exudation, and say (reserving certain conditions*) that in these there is an excessive exercise of formative force—an hypertrophy. But between such diseases and tumours we shall rarely fail to observe the following differences:—1st. The accumulation of lymph in inflammation appears chiefly due to the morbid state of the parts at or adjacent to the seat of exudation. We have, I think, no evidence that the lymph of inflammation increases by any inherent force—any attraction of self-organising matter, or any multiplication of its own cells; but the increase of all, or nearly all, tumours, is "of themselves:" they grow as parts of the body, but by their own inherent force, and depend on the surrounding parts for little more than the supply of blood, from which they may appropriate materials. A tumour, therefore, as a general rule, increases constantly; an inflammatory exudation generally increases only so long as the disease in the adjacent parts continues.

2d. The materials severally produced in excess, in these two cases, have different capacities of development. The inflammatory exudation, in whatever part it lies, has scarcely more than the single capacity to form fibro-cellular or fibrous tissue: the material that begins or is added to a tumour may, indeed, assume either of these forms, but it may assume any one of several other forms.

But, 3dly, the most striking contrast is in the events subsequent to this first organising of the two materials. The later course of organised inflammatory exudations, like that of the organised material for repair after injuries, is usually one of constant approximation to a healthy state. As newly-formed parts, they gradually assimilate themselves to the shape and purpose, if not to the tissue, of the parts among which they lie; or they are apt to waste, degenerate, and be removed. Their progress is ever towards a better state; so that, in the whole course of exudative inflammatory diseases, some can see nothing but an "effort of nature" to avert or repair some greater evil.* It is very different with the class of diseases to which tumours belong: it is in their very nature to proceed to further and further deviation from the proper type of the body. The structure of tumours may, indeed, be like that of some of the natural parts; it may be identical with that of the part in which they lie: in this they may be homologous; but, considered in their life, they are not so; for, commonly, they are growing while the tissues far and near around them are only maintaining their integrity, or are even degenerating, or yielding themselves to the anormal growth.

I think that it is only in the consideration of this activity and partial independence of the life of tumours, and of the diseases allied to them, that we shall ever discern their true nature. We too much limit the grounds of pathology when, examining a tumour after removal, we only now compare it with the natural tissues. The knowledge of all its present properties may leave us ignorant of the property which it alone, of all the components of the body, had some time ago,—the property of growing. And so, if we can ever attain the knowledge of the origin of a tumour, it may avail little, unless it supply also the explanation of its progress. If, for example, what is very improbable could be proved—namely, that tumours have their origin in the organisation of extravasated blood, or of inflammatory exudation, still this greater problem would remain unsolved:—How or why is it, that, in ordinary cases, these materials, when organised, gradually decrease, and assimilate themselves to the adjacent parts; while, in the assumed formation of tumours, they gradually increase, and pursue, in many cases, a peculiar method of development and growth? Why is it that, assuming even a similarity of origin, the new-formed part manifests, in the one class of cases, a continuous tendency towards conformity with the type of the body—in the other, a continuous deviation from it in shape and volume, if not in texture? How is it that, to take an extreme case, we can ever find, as in a specimen† at St. George's Hospital, fatty tumours of considerable size in the mesentery of a patient from whom, in the extremest emaciation of phthisis, nearly all the natural fat was removed.

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* Lectures on Inflammation, p. 50.

* There are, indeed, cases in which organised lymph and scars continue to grow; but these are quite exceptional, and are to be regarded as diseases of the same class as tumours, peculiar only in respect of the materials in which they are manifested.

† Y 71, Museum of St. George's Hospital.

I do not pretend to answer these questions; but I think that in them is the touchstone by which we may tell the value of a pathology of this great class of diseases. It is not in the likeness or the unlikeness to the natural tissues that we can express the true nature of tumours: as dead masses, or as growths achieved, they may be called like or unlike the rest of a part; but, as things growing, they are all unlike it. It is, therefore, not enough to think of them as hypertrophies or overgrowths: they must be considered as parts overgrowing, and as overgrowing with appearance of inherent power, irrespective of the growing or maintenance of the rest of the body, discordant from its normal type, and with no seeming purpose.

To all this, I know, it may be objected that tumours, and other like growths, may cease to grow, or grow unequally, and yet are tumours still. But this is only in appearance opposed to what I have said, which is no more than that the best or only period, in which we may discern the true difference of these from other growths, is the period of their active increase. As we can have no complete idea of any living thing, unless it include the recognition of its origin, and of its passage through certain phases of development and growth; so must our thoughts of these abnormities be imperfect or untrue, unless we have regard to their development, and growth, and maintenance, as independent parts. But, indeed, the cessation of growth in tumours and the allied diseases often affords evidences of their peculiar nature, confirmatory of that deduced from their increase. Such cessation may occur when they have attained a certain regular size; as in the painful subcutaneous tumours, the osseous tumours on the phalanges of great toes, and some others, which, perhaps always, cease to grow when they have reached a limit of dimensions, that appears as natural and constant for them as the average stature is for the individuals of any species. Or, the cessation of growth may occur when the tumour degenerates or wastes; as when a fibrous tumour calcifies, or when a mammary gland tumour is absorbed. But it is to be observed that these events are, or may be, as irrespective of the nutrition of all the rest of the body as the development and growth of the tumour were; and that, except in the comparatively rare event of the absorption of a tumour, there is in no case an indication of return to the normal type or condition of the body: there is no improvement, as in the organised exudations of the inflammatory process, no adaptation to purpose, no assumption of a more natural shape. In all these events, therefore, as well as in their growth, the nearly independent nature of the tumour is shown: while forming part of the body, and borrowing from it the apparatus and the materials necessary to its life, the tumour grows, or maintains itself, or degenerates, according to peculiar laws.

The characters of which I have been speaking belong to a larger number of abnormities than are usually called tumours: they belong, indeed, to a large class, of which tumours form one part or section; and another part is composed of certain morbid enlargements of organs by what is regarded as merely hypertrophy,—such as that of the prostate, the thyroid gland, and others.[*] Now the distinction between these two divisions of the class must, I believe, be an arbitrary one; for the two are so little unlike, that, really, it is in these hypertrophies of glands that we may hope to find the truest guidance to an insight into the nature of tumours.

In speaking of cysts from the walls of which vascular growths may spring and fill their cavities, I shall have to describe that these intra-cystic growths are, in their best state, close imitations of the gland in which they occur. In relation to tumours, the most instructive examples of this fact are in the cystic tumours of the breast, of which the general structure has been illustrated by Dr. Hodgkin and Sir B. C. Brodie, and the microscopic character by M. Lebert and Mr. Birkett. Among these, a series of diagrams, from specimens in the Museum,[†] may illustrate the transition from the simple cyst to the cyst so filled with gland-substance as to form a solid tumour,—the chronic mammary, or mammary glandular tumour. Now a near parallel with the history of these mammary tumours is presented by the observations of Frerichs[*] and Rokitansky[†] on the intra-cystic growths which occur within the substance of enlarging thyroid glands,—*i. e.*, of increasing bronchoceles. In these, masses of new-formed thyroid gland-tissue are found imbedded, and inclosed in fibro-cellular coverings or capsules, within the proper, though increased, substance of the gland. In like manner, as Rokitansky has shown, it is not unusual, in enlargements of the prostate gland, to find distinct masses of new structure imitating that of the prostate, which lie imbedded and incapsuled in the proper substance of the gland. Moreover (and here is a closer contact between these hypertrophies and tumours), these growths of new gland-tissue may appear not only in the substance of the enlarging thyroid and prostate glands, but external to and detached from the glands. Such outlying masses of thyroid gland are not rare near bronchoceles;[‡] lying like the little spleens one often sees near the larger mass. Near the enlarged prostate, similar detached out-lying masses of new substance, like tumors in their shape and relations, and like prostate gland in tissue, may be sometimes found. I have here a very large and remarkable specimen of the kind, sent to me by Mr. Wyman.[§] It was taken from a man, 64 years old, who, for the last four years of his life, was unable to pass his urine without the help of the catheter. He died with bronchitis; and a tumour, measuring 2½ inches by 1½, was found, as Mr. Wyman described it, "lying loose in the bladder, only connected to it by a pedicle, moving on this like a hinge, and, when pressed forwards, obstructing the orifice of the urethra." Now, both in general aspect and in microscopic structure, this tumour is so like a portion of enlarged prostate gland, that I know no character by which to distinguish them.[||]

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[*] The class may seem to include, also, those abnormal states of the fœtus which are attended with excessive growth or development of organs or members, yet cannot be ascribed to a fusion of two germs; and, indeed, in the case of certain bony growths, the line cannot be drawn, without artifice, between monstrosities by excess and tumours (see Lecture vii.). But, in the large majority of cases, there are sufficient characters of distinction between them; for, 1st, the congenital excesses of development present a more complex structure, and are more conformed to the plan and construction of the body, than anything that can be reasonably called a tumour. And if it be said that this higher organization is no more than is consistent with the period of formation, which is in embryo-life, when the force of development is greatest; then, 2dly, we may note this difference—that the congenital excesses are limited for their increase to the period of natural growth of the body. They commonly cease to grow when or before the body has attained its full stature: they usually conform to its methods and times of development, growth, and decay.

[†] Mus. Col. Surg., Nos. 168, 169, 170, 172, &c.

The relation of these new-formed isolated portions of the thyroid or prostate gland is so intimate, on the one side, to admitted tumours,—such as the chronic mammary,—and, on the other side, to the general hypertrophies of the glands, that we cannot dissociate these diseases without great violence to nature. Clearly these are all essentially the same kind of disease: yet, to call them all "tumours" would be to do as much violence to the conventional use of terms which have become not merely the expressions, but the guides, of our thoughts. The best course seems to be to make an arbitrary division of this group. In accordance, then, with the arbitration of custom, we may assign the name of tumours to such examples of these morbid growths or growing parts, as, 1st, are isolated from the surrounding parts by distinct investing layers of tissue; or, 2dly, are continuous with the natural parts, but are abruptly circumscribed in the greater part of their extent; or, 3dly, are formed of new materials infiltrated and growing in the interstices of natural parts.

If the group of what are to be called tumours may be thus inclosed, we may next proceed to divide it into smaller parts. And, first, it seems proper to divide tumours according as they may be named innocent or malignant. I would employ these terms still, because, though not free from objections, they imply a more natural and a less untrue division than any yet invented to replace them. The distinction between innocent and malignant tumours is probably one not of mere visible structure, but of origin and of vital properties; it is, therefore, less falsely expressed by terms implying quality of nature, than by such as refer to structure alone.

I shall not be able in these lectures to describe malignant tumours. It may suffice, for the present, to illustrate those characters which may be generally deemed distinctive of malignancy; while their absence, or the existence of their opposites, may be counted among the general characters of the innocent tumours which I propose more fully to describe.

And, first, the intimate structure of malignant tumours is, usually, not like that of any of the fully developed natural parts of the body, nor like that which is formed in a natural process of repair or degeneration.

Many of the cells of cancers, for example, may be somewhat like gland-cells, or like epithelium-cells; yet a practised eye would easily distinguish them, even singly. And much more plainly their grouping distinguishes them: they are heaped together disorderly, and seldom have any lobular or laminar arrangement, such as exists in the natural glands and epithelia, or in the innocent glandular or epithelial or epidermal tumours. These innocent tumours are really imitations, so far as their structure is concerned, of the natural parts;

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[*] Ueber Gallert- oder Colloid-Geschwülste. Göttingen, 1847.

[†] Zur Anatomie des Kropfes; and Ueber die Cyste, in the Denkschr. der K. Akademie der Wissenschaften, Wien, 1849.

[‡] In the Museum of St. George's Hospital are two portions of substance exactly like thyroid gland, which were removed "from the situation" of that body.

[§] The specimen is in the Museum of St. Bartholomew's Hospital. A remarkable tumour of the same kind, but imbedded in the substance of the prostate, is in the Museum of the Middlesex Hospital.

[||] Such tumours will be further described in the last lecture.

and the existence of such imitations makes the diversity—the heterology, as it is called—of the malignant tumours appear more evident.

Still, this rule of dissimilarity of structure in malignant tumours is only general. The other properties of malignancy may be sometimes observed in tumours that have, apparently, the same structure as those that are generally innocent. I shall have to refer to cases of fibrous tumours which, in every respect of structure, were like fibrous tumours of the uterus, and yet returned after removal, and ulcerated, with infection of adjacent parts, and appeared in internal organs. These, with some others, must be regarded as malignant, though in structure resembling innocent tumours and natural tissues. On the other hand, there are some innocent cartilaginous tumours with structures that do not exist in any of our natural tissues. The two sets of cases, though both be exceptional, supply sufficient grounds for not preferring such terms as "homologous" and "heterologous" before "innocent" and "malignant," if they are meant, as they commonly are, to apply to the structure of the several growths.

Secondly, malignant growths may have the character of infiltrations,—*i. e.*, their elementary structures may be inserted, infiltrated, or diffused in the interspaces and cavities of the tissues in which they lie. Thus, in its early state, a malignant tumour may comprise, with its own proper elements, those of the tissue or organ in which it is formed; and it is only in its later life that the elements of the tissue or organ disappear from it, gradually degenerating and being absorbed, or possibly yielding themselves as materials for its growth.[*]

Thus a hard cancer of the mammary gland includes in its mass a part, or even the whole, of the gland itself, as if there were only a conversion of the gland-tissue: and one may find within the very substance of the cancer the remains of the lactiferous tubes involved in it, and, with the microscope, may trace in it the fibro-cellular tissue that separated the gland lobes, and the degenerate elements of the epithelial contents of the tubes and acini. But among all these lie the proper cells of the cancerous growth, and these usually increase while the original structures of the gland decrease. So, too, in medullary cancerous disease of the uterus, the uterus itself, or part of it, is in the tumour, and gradually wastes while the medullary matter diffused or infiltrated in it is growing.

The malignant growths may, I say, thus appear as infiltrations; but they are not always so. Thus, though the hard cancer of the breast is, commonly or always, an infiltration of cancerous substance in and among the proper structures of the gland; yet the hard cancer of the bones is usually a distinct tumour, such as has no mixture of bone in it, but may be enucleated from the cavity or shell of bone in which it lies. So, too, while the medullary cancer of the uterus plainly consists in an infiltration or insertion of new material in the substance of the organ, that of the breast is usually a separate tumour, and altogether discontinuous from the surrounding parts.[*]

Many other instances of similar contrast might be cited: still the fact that their elementary structures may be thus infiltrated in the tissues they affect is a characteristic feature of malignant tumours. I think it is never imitated in cases of innocent tumours.

3d. It is, also, generally characteristic of malignant tumours that they have a peculiar tendency to ulcerate, their ulceration being commonly preceded by softening. One can, indeed, in this particular, only observe a graduated difference between the innocent and the malignant diseases; for certain innocent tumours, if they grow very rapidly, are apt very rapidly to decay; and then may suppurate and discharge their pus and débris with foul and dangerous ulceration. Thus the quickly-growing cartilaginous tumours may imitate, in these respects, malignant growths; so may large fibrous tumours when they soften and decay. Or, again, when an innocent tumour grows more rapidly than the parts over it can yield, they may waste and ulcerate, and allow it to protrude; and it may now itself ulcerate and look very like malignant disease. This may be seen in the protruding fibrous tumours that ulcerate and bleed; or, in a more striking manner, in the protruding vascular growths that have sprung up in the cystic tumours of the breast. Or, once more, the characters of readiness to ulcerate may be imitated by innocent tumours after injuries, or in exposure to continued irritation; for they resist these things with less force than the similar natural parts do. Hence, sloughing and ulcerating fibrous, erectile, and other tumours, have been often thought cancerous, and so described.

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[*] See, on this last-mentioned point, Rokitansky, Pathol. Anatomie, i. 122. If the removal of the original textures in such a case be quicker or more considerable than the production of the new morbid substance, there may be no swelling or visible tumour; yet, since the new material increases, the essential character of a growth is observed. Such growth without swelling is often noticed in hard cancers of the breast and of the bones.

[*] Nos. 2787, 2796, and others in the College Museum; and Nos. 15 in Ser. 32, and 28 in Ser. 35, of that of St. Bartholomew's, illustrate these contrasts. On the difference between *infiltrations* and *outgrowths*, see p. 932.

The respective tendencies to ulcerate can, therefore, be counted only as constituting differences of degree between the innocent and the malignant tumours. We may speak of a liability in the one case, of a proneness in the other: in the innocent, the ulceration has the marks of disease in the growth; in the malignant, it appears rather as a consequence of natural degeneration or molecular death.

4th. The softening that often precedes the ulceration of malignant growths can hardly be considered separately from the minute account of their structure. I therefore pass it by, and proceed to their fourth distinctive character, which is to be noticed in the modes of their ulceration.

This is, that the ulcer, which forms in, or succeeds, a malignant growth, has no apparent disposition to heal; but a morbid substance, like that of which the original growth was composed, forms the walls or boundaries of the ulcer; and as this substance passes through the same process of ulceration which the primary growth passed through, so the malignant ulcer spreads and makes its way through tissues of all kinds.

In contrast with this character of malignant growths, it is observable that beneath and around an ordinary ulcer of the natural tissues, or of an innocent tumour, we find the proper tissues unchanged; or, perhaps, infiltrated and succulent with recent lymph, or the materials for repair; or somewhat indurated with lymph already organised. The base and margins of a cancerous ulcer are themselves also cancerous; those of a common ulcer are infiltrated with only reparative or inflammatory material. In like manner, if ulceration extend through an innocent growth, it may destroy it all; and no similar growth will form in the adjacent parts, replacing that which has been destroyed: but, in the ulceration of cancer, while the cancerous matter is being constantly discharged, by sloughing or ulceration, from the surface, new matter of the same kind, and in more abundance, is being formed at some distance from the surface; so that, in a section through an ulcerated cancer, one does not arrive at healthy tissues till after passing through a stratum of cancer.

5th. Malignant tumours are, again, characterised by this,—that they not only enlarge, but apparently multiply or propagate themselves; so that, after one has existed for some time, or has been extirpated, others like it grow either in widening circles round its seat, or in parts more remote.

Mere multiplicity is not a distinctive character of malignant diseases; for many innocent tumours may be found in the same person. But in the conditions and circumstances of the multiplicity there are characteristic differences. Thus, when many innocent tumours exist in the same person, they are, commonly, or always, all in one tissue. Thus a man may have a hundred fatty tumours, but they shall all be in his subcutaneous fat: many fibrous tumours may exist in the same uterus, but it is so rare, that we may call it chance, if one be found in any other part in the same patient: so, many cartilaginous tumours may be in the bones of the hands and feet, but to these, or to these and the adjacent bones, they are limited.

There is no such limitation in the cases of multiplicity of malignant tumours. They tend especially to affect the lymphatics connected with the part in which they first arise; but they are not limited to these. The breast, the lymphatics, the skin and muscles, the liver, the lungs, may be all, and at once, the seats of tumours. Indeed (and here is the chief contrast), it is more common to find the many malignant tumours scattered through several organs or tissues than to find them limited to one.

Moreover, if there be a multiplicity of innocent tumours, they have generally had a contemporary origin, and all seem to make (at least for a time) a commensurate progress. But the more ordinary course of malignant tumours is, that one first appears, and then, after a clear interval of progress in it, others appear; and these are followed by others, which, with an accelerating succession, spring up in distant parts.

6th. A sixth distinctive character of malignant tumours is that, in their multiplication, as well as in their progress of ulceration, there is scarcely a tissue or an organ which they may not invade.

In regard to their multiplicity, I have just illustrated their contrast in this point with the innocent tumours; and a similar contrast is as obvious in the characters of the ulcers. It is seldom that a common ulcer extends, without sloughing, from the tissues it has first affected into any other; rather, as a new tissue is approached, it is thickened and indurated, as if to resist the progress of the ulcer. But before a cancerous ulcer the tissues in succession all give way, becoming first infiltrated, and then, layer after layer, degenerating and ulcerating away with the cancerous matter.

One may see this very well in bones. Specimens are to be found in nearly all Museums, of tibiæ (for example) on the front surfaces of which new bone is formed, in a circumscribed round or oval layer, a line or two in thickness. This bone, which is compact, hard, smooth, and closely united with the shaft beneath it, was formed under an old ulcer of the integuments of the shin. But, on the other side, specimens are found, which show that when a cancerous ulcer reaches bone, at once the bone clears away before it; and a cavity with abrupt, jagged, eaten-out edges, tells the rapid work of destruction.[*] Neither are specimens rare, showing the progressive destruction of more various tissues; such as a cancer of the scalp making way by ulceration through the pericranium, skull, and dura mater, and then penetrating deeply into the brain;[†] or one in the integuments of the shin going right through the tibia, and deep into the muscles of the calf.[‡]

Such are the general characters of malignant tumours. Those of innocent ones are their opposites or negatives. Thus: no innocent tumours have a structure widely different from that of a natural tissue; none appear as infiltrations displacing or overwhelming the original tissues of their seat; none show a natural proneness to ulceration; nor is the ulceration, which may happen in one through injury or disease, prone to extend into the adjacent parts; none appear capable of multiplying or propagating themselves in distant parts; none grow at the same time in many different tissues.

Now, the distinctive value of each of these characteristics of malignant disease may be depreciated: indeed, I have myself lowered it, by showing that each of them may be absent in tumours having all the other features of malignancy, and that certain of them may be observed occasionally in tumours that in other respects appear non-malignant. But objections against each character separated from the rest are of little weight against the total value of all these characters of malignancy, or of a majority of them, concurrent in one case. None but such as are disposed to cavil at all nosology could fail, in watching a series of cases of tumours through many years, to observe that the great majority of them could be classed according as, in their course, they did or did not present the characters that I have enumerated. Some cases would be found in which one or two of the signs might be wanting, or, if I may so speak, misplaced; but, putting these aside, as exceptions to be regulated by future inquiry, and looking broadly at the whole subject, no one could doubt that this division of tumours into innocent and malignant may be justly made, and that the outward marks by which they are discriminated are expressions of real differences in their properties and import.

In what these differences may consist, it may be best not to discuss while yet we can come to none but very vague conclusions. For malignant tumours it is, I think, most probable that they are local manifestations of some morbid state of the blood; that in them are incorporated peculiar morbid materials, which have accumulated in the blood, and which their growth may tend to increase. All their distinctive characters are, I think, consistent with this view; and if the absence of the same characters in innocent tumours may lead us to believe that they are completely local diseases, then we can, perhaps, only speak of them as the result of some inexplicable error of nutrition in the part that they affect, and as being only in the same measure dependent on the state of the blood as are the natural tissues, which require, and may be favoured by, the presence of their appropriate materials of nutrition.

It may be best to speculate no further, either on this point, or on the origin or determining causes of tumours. I could speak certainly of very little connected with these points, unless it were of the error or insufficiency of all the hypotheses concerning them that I have proposed to myself, or have read in the works of others.[*]

Narrowing, now, the objects of consideration to the innocent tumours alone, I will speak very briefly of their classification.

A first sub-division of them may be made, according to the usual arrangement, into the cysts or cystic tumours, and the solid tumours. There are, indeed, not a few instances in which the two divisions overlap or are confused. Thus, on the one side, in cases to which I have already referred, a solid growth may spring from the inner walls of a cyst, and enlarging more rapidly than the walls do, may fill the cavity, and come in contact and unite with the walls;

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[*] In the College Museum, Nos. 3082-3-3 A; 3267-8, and many others, illustrate these points.

[†] Museum of St. Bartholomew's, vi. 57.

[‡] Museum of the College of Surgeons, 232.

[*] The occurrence of tumours after injuries naturally suggests that they are due to the organization of effused blood, or of some inflammatory exudation, or of the material of repair. But there are great objections to this view. 1. It is an almost infinitely small proportion of injuries that are followed by the growth of tumours. 2. In a large majority of cases of tumour no injury or previous local disease is assigned, even by the patients, as the cause of the growth. In 100 cases, taken indiscriminately from those I have lately recorded, no local cause whatever could be assigned for the growth of 75 tumours, of which 35 were innocent and 40 malignant; of the remaining 25, referred by the patients to previous injury or disease of the part, 10 were innocent, and 15 maliguant tumours. 3. Blood extravasated, and the products of the inflammatory and reparative processes, are not indifferent materials, such as would pursue this or that direction of development, according to chance, or some imaginary influence exercised on them. They have a proper tendency to assume the form of fibro-cellular, fibrous, or osseous tissue They do not become, when their history can be traced, either fatty, or perfectly cartilaginous, or glan-

and thus may be traced a complete series of gradations from the cystic to the solid tumour. On the other hand, cysts may be formed within solid tumours, and, increasing more rapidly than the solid structure, may reduce it to scarcely more than a congeries of cysts, or to one great cyst. Such changes are illustrated sometimes in fibrous tumours of the uterus; and, I think, also, in the tumours, which Sir Astley Cooper called "hydatid disease," of the testicle.

But though there are these instances of confusion, yet the division is very convenient, and is probably deeply and well founded.

Next, among cysts, some are filled with a simple fluid, containing no organized matter, and resembling one or other of the fluids of serous cavities. These may be called simple or barren, or, in most instances, serous cysts.

Other cysts contain organised substances, and may be named, as a group, proliferous; and the several members of the group may be described, according to their contents, as glandular, cutaneous, sebaceous, epithelial, dental, and the like.

Of the solid innocent tumours, no method of arrangement at present appears reasonable but the old one, which is founded on their likeness to the natural tissues. On this ground they may be arranged in eight divisions, with names, as specific names, expressing their several resemblances,—viz., fatty, fibro-cellular, fibrous, fibroid or fibro-plastic, cartilaginous, osseous, glandular, and vascular or erectile. And, again, under each of these may be arranged certain varieties, including instances that, in some uniform manner, deviate, without quite departing, from the usual characters; as the fibro-cystic, fibro-calcareous, and other varieties of the fibrous tumours.

In each assumed species or group of these solid tumours, moreover, we must make a division, according to their modes of growth, and of connection with the adjacent parts. Some amongthem are only intermediately connected with the adjacent parts; a layer of tissue at once separates and combines them, and, by division of this layer, such a tumour may be cleanly and alone removed from the surrounding parts: it may be enucleated or shelled-out from them. Thus, with a common fatty tumour, or a fibrous tumour of the uterus, if we cut along one part of its surface, we may, with a blunt instrument, detach the whole mass, by splitting the layer of fibro-cellular tissue which, like a capsule, incloses and isolates it.

These are what we commonly accept as the proper or typical tumours, these which are "discontinuous hypertrophies."

Other growths resemble these in every character, except in that they are connected with the adjacent parts by continuity of similar tissue, and thus appear as growths, not in, but of, the parts. Thus we cannot exactly isolate a polypus of the nose or of the uterus: the overgrown part cannot be enucleated, because the proper tissue of the nasal mucous membrane, or of the uterine wall, is continued into it; the tissue of the growth is here not only uniform, but continuous, with that of the adjacent parts. So, too, with epulis: the gum itself, or the periosteum of the jaw together with the gum, seems, by its own excessive growth, to form the tumour; and in other fibrous tumours on bones, the fibres of the periosteum appear to be in the growth, and to form part of it.

Such growths as these might be named "continuous hypertrophies," or "outgrowths;" and I will, in general, observe this distinction wherever the same tissue is, in different cases, found in both forms of growth; calling the discontinuous masses, tumours,—the continuous ones, outgrowths. Thus, answering to the common fatty tumour, we find the pendulous and continuous fatty outgrowths of the neck or the abdominal walls; answering to the fibro-cellular tumour that grows, as a discontinuous mass, in the scrotum or beneath the labia, we have the cutaneous outgrowths or enlargements of these parts; to the fibrous tumours of the uterus answer the fibrous polypi or continuous outgrowths of its substance. All these instances of clear distinction might lead us to think that a strong definition-line might be drawn to divide the whole class of innocent overgrowths into tumours and outgrowths. But when we come to the tumours of bone and periosteum, and to the erectile tumours, we find the distinctions vanishing, and in many instances no longer possible.*

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dular tissue, such as we find in tumours. 4. No intermediate conditious have been yet found between blood or lymph and a tumour. And, lastly, all the facts relating to injuries, as favouring or determining the growth of tumours, are explicable on the supposition that the injury impairs for a time the nutrition of a part, and diminishes its power of excluding abnormal methods of nutrition.

* It may seem as if these "outgrowths" needed distinction from the "infiltrations" which were spoken of as peculiar to malignant diseases. The distinctions between them are well marked. In the outgrowths the new material is like that with which it is connected, or like its normal rudiment, so that it is as if the tissue were itself outgrown; but, in the infiltration, the new material is dissimilar from that in the interstices of which it is placed. And in the outgrowth the materials of the original part appear to be at least maintained, if they are not increased; but in the infiltration they degenerate and waste. We may compare, for this contrast, the cancerous diseases of the skin, and the cutaneous outgrowths of such parts as the labia or nymphæ, the prepuce or scrotum.

In thus briefly indicating that which appears still the most reasonable method of classifying tumours, I have just referred to difficulties which have appeared to some to be insuperable objections to any attempt at an arrangement of these diseases. I will therefore state, so far as I can, what is the real weight of these objections.*

First, it is said, such classifications cannot be well made, because, between each two assumed species or groups of tumours, intermediate examples may be found,—transitional, as it were, from one species to the other: the one, it is said, "runs into" the other; or, as Mr. Abernethy expressed it, "diseases resemble colours in this respect,—that a few of the primary ones only can be discriminated and expressed, whilst the intermediate shades, though distinguishable by close attention and comparative observation, do not admit of description and denomination."†

This is exactly true; but Mr. Abernethy appears to have felt that his sentence supplied the answer to the objection against classification by structure, which it expressed; for, as he did not, because of the intermediate tints, refuse to name and arrange the primary colours, so neither did he, nor need we, hesitate to name and classify diseases, and among them the principal forms of tumours.

Moreover, the objection, that structures may be found intermediate between those belonging to the chief forms of tumours, may be as well made against the use of names and systems for the natural tissues. There are no strongly outlined characters defining any of the natural tissues that are ever imitated in tumours; intermediate and confusing forms are found everywhere. The various forms of fibro-cartilage, for instance, fill up every possible gradation from cartilage to fibrous tissue: between fibro-cellular and fibrous tissues, between tendons, aponeuroses, and fasciæ, between epithelium and simple membrane, between cells and fibres, there are, in the natural tissues, the narrowest gradations. Yet we name and arrange the natural tissues with some truth and much utility; and so we may the tumours that resemble them.

Another objection against this classification of tumours is made on the ground that there are some in which two or more different tissues are mingled. Thus, tumors may be often found, in which fat and fibro-cellular tissue, or fibrous tissue and organic muscle, or cartilage and glandular tissue, or other combinations, meet together. But, among these, some are imitations of natural combinations of tissues, as the fibrous and organic muscular tissues of the uterus are imitated by the so-called fibrous tumours in its walls; and of the others, it need only be remembered that such combinations do occur, and these may be put aside from any interference with arrangement by making a series of mixed tumors, or by adding to the description of each species the combinations into which it may enter.

Yet another objection is made, that the characters of tumors are not constant, and that many must be reckoned as examples of one species, which are not much, or at all, like one another.

This diversity of characters is, indeed, the great difficulty with which the pathology of tumours has to contend; but the diversity is not to be called inconstancy: it is due to the fact that each tumour has, like each natural tissue, its phases of development, of degenerations, and of diseases. Now we have scarcely yet begun the study of the variations to which, in each of these phases, the several tumours are liable. We may have learned, for example, the general characters of cartilaginous tumours, as they grow in the most favourable conditions; but how little do we know of the various aspects these may present when they fail of due development, or fall into various diseases, or variously degenerate! Yet all these changes have to be studied in the history of every tumour; and it would be as reasonable to charge any natural tissue with inconstancy, because it is altered in development and disease, as to hold that the similar diversity of tumours is an objection to their classification according to their structure.

However, while I put this aside as an objection against classification, let me not be thought to underrate it as a difficulty; it is the great difficulty with which we have to contend. The work we have to do is not only to distinguish each kind of tumour from all other kinds, but, and in order to this end, to distinguish, as I may say, each kind from itself, by learning in each all the changes occurring in the various stages of its life. The difficulty of such a task cannot be exaggerated, while we consider the rarity of the objects to be studied; but it must be overcome before we can cease to speak of "anomalous tumours," and of "strange distempered masses," or, which is more important, before we can, even after the removal of a tumour, speak with any certainty of the issue of a case.

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* The best statement of these objections is by Vogel; but he has well answered his own arguments by disregarding them in his nomenclature of tumours.

† An Attempt to form a Classification of Tumours according to their Anatomical Structure. Surgical Works, vol. ii. ed. 1815.

Original Communications.

INFANTILE REMITTENT FEVER,

WITH ESPECIAL REFERENCE TO ITS DIAGNOSIS FROM HYDROCEPHALUS.

For which a Prize of Thirty Guineas was awarded by the South London Medical Society, October, 1849.

By Charles Taylor, M.R.C.S.
Late Surgeon to the Royal South London Dispensary.

[Continued from page 894.]

1st. The *simple* or *mild form* is very frequently met with, and occurs sometimes sporadically, but more often as an epidemic. Upon a change of season from cold and bracing to damp and mild weather, we find many children attacked with this mild form of the disease. We are requested to see the little patient, and learn that there has been, most probably, some indisposition for a few days; that he has not his usual spirits; his appearance is that of not being quite well, but yet not of severe ailment; the countenance is somewhat dull and heavy; the appetite is precarious, perhaps gone; he is restless or fidgetty, averse to, or even dislikes, his usual amusements; often picking his nose and lips, wishing to be in bed, and then not satisfied: if seen in the morning, his skin *may* be hot—frequently not so: towards evening, however, he becomes feverish; his cheeks flushed; his pulse, which in the day was almost natural in frequency and character, now becomes quickened, varying from 100 to 120, and, if delirium is present, rising even to 140 in the minute, and somewhat sharp and incompressible. At this time, if he sleeps, it is disturbed and restless, and even in the mildest form there is rambling and incoherent talking. This paroxysm of fever lasts but for a few hours, passing off gradually; and towards morning the child falls into a more quiet and composed sleep,—sometimes a slight perspiration breaks out, and, as the day advances, the patient appears merely indisposed, being in the same condition as the day before. The tongue is more or less furred (in this form I have seen it very slightly so); the papillæ are generally elongated, projecting through the fur, and injected: in proportion as there is gastric disturbance, so do we find the greater or less degree of fur on the tongue. The feverish condition returns as the day declines, and so on for a few days; and in the course of a week, or rather more, we find our little patient convalescing, but frequently much debilitated. The paroxysm of fever is not always of equal severity each evening, and gradually lessens in duration and intensity on approaching convalescence. The bowels occasionally, at the commencement, are confined, but in this mild form are seldom much out of order. This mild form may, and often does, become chronic. During the winter of 1848 numerous cases of this form occurred,—some, indeed, of greater severity; and at that time it was both epidemic and endemic. A medical friend informed me he had many cases which were decidedly remittent, but disposed to lose the remissions, and assume the continued type.

It would be easy to illustrate this mild form of fever by numerous cases; but I will only select the following:—

Simple Remittent Fever.

Case I.—Master J. C., æt. 4, November 1848. Arrived from India a few months back; now residing in an open situation, but low and damp; is robust and fresh coloured when in health; has been ailing the last few days. Tongue coated with a thick white fur; breath very offensive; bowels confined; motions whitish; has frontal headache; towards evening of each day an attack of fever comes on, which leaves him as morning approaches: pulse 100; sleep disturbed, and there was slight delirium one or two nights. The treatment consisted in Pulv. Rhæi c. Hydr. c. Cretâ, as a purgative, and a mixture of Julep. Ammon. Acetatis with Spirits of Nitre, and afterwards the Soda Mixture; and he was convalescent in about ten days.

Simple Remittent Fever, with Gastric Irritation.

Case II.—C. C., æt. 6, sister of Case I., arrived in England at the same time as her brother: pale and delicate, with a dark areola around the eyes: has been ill four or five days; tongue covered with a creamy white fur; breath offensive; pulse quick; hands cold at present (5 P.M.): towards night she becomes feverish, which state lasts for some few hours, and in the morning she is quite free from fever; appetite bad; no desire for food; thirsty; bowels have been confined, but has had some senna tea: slight cough.—Pulv. Sodæ comp., gr. vj., horâ somni; Liquor. Ammon. Acet. c. Spir. Nitri et Vin. Ipecac. ter die.

7th.—Tongue rather cleaner at apex: its appearance is peculiar; the base nearly to the apex being covered with a dirty white fur; the tip and edges for about half an inch have the papillæ rather prominent and red; bowels open once, scanty, rather clayey in their appearance; urine scanty, slight difficulty in passing, voided twice a day, and in a short time after cooling deposits a sediment; pulse 120; in the morning the hands and body are cold; about five in the afternoon, and continuing about five or six hours last evening, there was a well-marked attack of fever; the flesh is soft and flabby at other times.

14th.—The gastric symptoms gone; tongue clean; merely slight cough left; bowels regular; motions and urine normal; countenance clearer.

16th.—Pronounced convalescent.

Both these children had suffered from remittent fever when in Bombay; the boy's attack differed from his sisters, his being characterised by the existence of more headache, to which he had a tendency, and hers, by more gastric irritation.

Simple Remittent Fever coexistent with Continued Fever in the Adult.

Case III.—Jessie D., æt. 3, April 1849. Residing in an unhealthy locality; wet and damp weather; an elder brother had croup a week back. She became suddenly ill, having been attacked with rigor, followed by fever. Scarlatina being in the neighbourhood, I expected it would prove such, but the following morning the child was better, and there was no appearance of any eruption. From her mother's account, she becomes feverish towards night, which state continues for some hours, and she is better again in the morning. One night there was wandering in the sleep. Her tongue was loaded with fur; the papillæ prominent towards the apex; in the course of a week she was convalescent. Within a few days after, I was called to see this child's grandmother, living four doors off, with an attack of continued fever.

Cases IV., V.—T. M'K., æt. 4, and her sister, æt. 2, residing near Case III., about the same time were ailing with a sharp attack of fever, after shivering, and some eruptive disease was expected, but none, however, appeared. They both had slight cough, but not enough to designate the disease bronchitis; and, there being no local affection, I felt I must place them under fever, and, moreover, as they got worse towards night, this fever was of a remittent character.

These two cases required strong purgatives; as calomel and jalap.

Remittent Fever of a more Acute Character.

Case VI.—John A., æt. 5, living in a cottage, having only a ground floor, and, the mother being a laundress, the place is very damp, and, until recently, a foul uncovered drain close by.

Dec. 11, 1849.—Has been ailing for a few days; is feverish throughout the day, which becomes worse at night. During the day there are three or four evident accessions and remissions of fever, but no entire freedom from it. This evening, after a paroxysm of fever, which lasted two hours, he was in a profuse sweat, with headache, and much restlessness and delirium during sleep. Urine has passed twice during the last twenty-four hours; scanty, and deposits a white sediment. Tongue furred and white; pulse 100.—℞ Pulv. Rhæi c. Hyd. c Cretâ, gr. v., h. s. s.; and the Soda Mixture.

13th.—Last night passed very restlessly, with delirium; bowels open once freely, but he complains of pain in the course of the colon. At 3 P.M. there was an accession of fever, from which he had been free during the morning. In the course of a few days he was convalescent.

Case VII.—His brother, æt. 7, was the subject of an attack a week before; he also had pain at the umbilicus, and slight vomiting; his tongue was rather peculiar, having a clear patch, where the fur and epithelium were peeled off in the centre. This boy was feeble, and far from well for some time after.

2d. *The acute form.*—This is the form, I believe, more generally described by authors; it may arise suddenly after a large and improper meal, according to Dr. Locock, and may then be regarded as a symptomatic or irritative fever; or it may occur after a continuance of improper diet; but it is more often traceable to malaria, and occurs at a time when the mild form is prevalent, or continued fever is present among adults.

The onset of this form varies; at times commencing as in the simple form, and gradually developing itself into greater severity; at other times it sets in with all the characters of an acute affection, as headache, great disturbance of the sensorium, vomiting: if old enough, the child complains of his head, that he is not well. There are often general pains of the body and limbs; the countenance, when the onset is acute, is often flushed; otherwise it is dull, and of a peculiar stupid aspect. There is often a dark areola around the eyes, which are also dull. The tongue is loaded with thick, whitish, and occasionally yellowish fur, even to the apex: the papillæ are elongated, and often highly injected. When the fur does not extend as far as the apex, it and the sides of the tongue are injected; and frequently the tongue has a peculiar *strawberry* appearance; sometimes, however, it is more brownish, and rather dry. The breath is very foul, and of a peculiar odour; the appetite irregular and capricious, and at times the child will not take anything. I have, however, occasionally, in sharp attacks of fever, known the child eat heartily of bread and butter during the remission. There is also frequently much irritability of the stomach, attended by nausea; so that, if food is taken, it is quickly rejected. At times there is pain at the epigastrium, which lasts for a few days: this latter symptom I have usually found concomitant with the nausea, and a tumid condition of the abdomen. The bowels may, perhaps, have been irregular, and we now find them varying in their condition, but, as a rule, abnormal; they may be relaxed or costive, constipation being more frequent at the commencement of the illness; while diarrhœa, and a tendency to dysentery, are more frequent in the latter stages of the disease. When confined, the stools are usually of a clayish or earthy appearance, deficient in bile, or of a mixed nature, some portion clayey, and others of a more yellow hue, and sometimes they are almost black and scybalous. When relaxed, they are of a pale clayey appearance, and occasionally frothy, and under either aspect they are of a very offensive nature. The urine partakes in the disturbance of the secretions generally, being scanty, and of a whitish or milky appearance, and, after standing, depositing lithates. This appearance of urine has been strongly insisted on by many authors as pathognomonic of the disease; but, as Dr. Willshire remarks, there is "nothing peculiar to the urine or stools of remittent fever." I have frequently observed it, even in the mildest cases, but should not lay any stress upon it, nor consider it in any way as a diagnostic mark. Having examined the urine of several cases, I have in all found it acid, not coagulable, and of sp. gr. about 1·018: the deposit is that of lithates, and depends on the impairment of the digestive functions, as we so often find it occur in severe cases of dyspepsia. The temperature of the body is increased throughout the day, and becomes still greater as the evening exacerbation approaches:* it has been found by Dr. West as high as 105° Fah.; and I have occasionally, from the great heat of skin, fancied pneumonia was present. The cheeks, hands, and abdomen are generally the hottest parts, and occasionally the scalp is found very hot.

Towards evening most of the symptoms become increased, the fever by degrees becomes more intense, and the irritability greater. In the majority of cases the increase of fever is not preceded by any rigor, or even any slight degree of shivering. In some few cases, however, a distinct rigor is observed; the pulse becomes quicker and fuller, varying from 140 to 160; the cheeks flushed. There is often great thirst; the tongue becomes dry and parched. There is more or less disturbance of the sensorium, as evinced by wildness of manner. The child is disposed to sleep, being drowsy: the sleep, however, is much disturbed, and delirium and rambling are mostly present; the respiration is hurried, and a short hacking cough is frequent. This state continues some hours, when the fever abates; in some few instances partial and profuse sweats break out, the sleep becomes more quiet, and towards morning all the symptoms decline; and during the day the child appears better, although far from well, being in much the same state as before described. The acute form, if arising from overfeeding, and treated *accordingly*, Dr. Locock says, may not continue beyond a single day; more frequently, and always, I believe, when arising from malarial influence, it continues from ten days to a fortnight, or even three weeks; the symptoms, day by day, vary but little, and there is the same evening increase of fever, followed by a remission more or less complete next morning. When under proper treatment, and free from complications, all other things being favourable, after about ten days or a fortnight the symptoms begin to abate, and in a few days more, signs of returning convalescence are evident; but at this time, or even earlier, the disease may assume a typhoid character.

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* In the Med. Times, March 1850, it is mentioned that M. Roger has found the heat greater in typhoid (remittent) fever in children than in any other disease, not excepting pneumonia, and this when the circulation is not much accelerated.

Paroxysms.—Most usually there is but one well-marked paroxysm during the twenty-four hours, which comes on in the evening, lasting from one or two to four or five hours, and is then followed by the remission; but occasionally the fever assumes a continued type, or the remissions are imperfect.

Drs. Butter and Coley allude to three remissions: the latter says—"there is one exacerbation in the forenoon, one in the afternoon, and one at night, the last being the most severe." Dr. West says—"in some instances two distinct exacerbations and remissions are observed in the twenty-four hours, but mostly only one is remarked." In a large number of cases observed by me during the years 1848-9, the evening exacerbation has been distinct; but it has been doubtful as to the occurrence of any well-marked paroxysm during the day, although, in some few cases, there has been a slight accession of fever without an increase in the other symptoms. In the chronic form there is a greater tendency to an alternate increase and decrease of fever and other symptoms.

Picking.—There is one symptom to which I have not alluded in describing this form of disease—namely, a constant picking of the skin. Frequently from the commencement, but more generally after the disease has continued for a few days, the child picks its face, angles of mouth, nose, and even eyelids, also its fingers, so that troublesome ulcerations ensue, which often heal with difficulty. This picking is by some considered one of the most important and conclusive signs of the genuine disease: it is, however, more significant of gastro-intestinal disturbance. Dr. Locock alludes to two cases where it was a prominent symptom, and yet there was no gastric disturbance, but empyema supervening on hooping-cough, complicated with pneumonia; and inquires "if it is not rather a symptom belonging to the hectic of children, whether produced by pulmonic, intestinal, or organic complaint." Although this peculiar picking of the skin cannot be considered as diagnostic of any peculiar form of fever in children, and although occasionally absent, yet in most cases, on careful inquiry, we shall find there is more or less of it. I have more especially met with it in some of the typhoid and the more severe chronic cases, with bowel complication, and have seen several cases—one lately in Guy's Hospital—where the child, from picking its fingers, caused large ulcerations on three or four of them.

Case VIII.—E. B., male, æt. 3, came under my care at the South London Dispensary, December 1843, having suffered from chronic fever with much diarrhœa; his convalescence being very protracted, recovery not taking place until four months had elapsed. He had an ulcer on his finger, from the continued picking, which was very troublesome, the bone becoming exposed, and a dead portion afterwards exfoliated.

Bowels.—The condition of the bowels has been considered by some authors almost pathognomonic of remittent fever. Dr. Locock says:—"The condition of the bowels is one of the most uniform characteristics of this disease; sometimes there is diarrhœa; more commonly, however, constipation; but, in either case, the evacuations are highly offensive, the fœtor resembling putrid meat: they are dark, pitchy or clay-coloured, with little or no admixture of bile, or the biliary secretions appear vitiated and unmixed with the general mass." Drs. Butter and Pemberton also lay great stress on the same. The latter, speaking of Dr. Butter's low form, says:—"The intestines seem paralysed: they exert no action on the food; for it passes off like a mass of putrid animal and vegetable matter, without the least appearance or smell of fæces where the digestive powers have been exerted." Dr. Joy, who follows Dr. Butter's description, says:—"The stools are always unnatural, either in colour, consistence, or smell, paler or darker, frothing or fermenting."

In the simple and mild forms there is nothing characteristic in the evacuations, but, as before mentioned, they vary. In the gastric and chronic cases there is certainly an unhealthy condition of the excretions from the bowels different from other diseases which we might confound with this. In all cases the evacuations should be closely watched—"inspect the evacuations, instead of attending to the nurse:" as much may be learned from them, as to colour, consistence, and odour, in reference to the treatment of the case.

Worms.—Worms are occasionally present, but certainly not in the majority of cases: the small thread-worm is most frequent—the ascaris lumbricoides more seldom: they are not indicated by any certain diagnostic symptoms, and we can only be sure of their existence by ocular demonstration.

Convalescence.—The signs of returning convalescence consist in the paroxysms of fever becoming less severe and of shorter duration, the bowels more regular in action, and the evacuations more natural, the countenance becoming clearer; the tongue gradually cleans from the tip towards the base, the papillæ are less injected, the skin assumes a healthier condition, the appetite returns and is occasionally craving, sleep is more refreshing, and, in fact, all the functions are more regularly performed. The following cases serve to illustrate this form of disease:—

Case IX.—*Acute Remittent Fever, with Thread-worms, and Diarrhœa.*

Mrs. K.'s child, æt. 3½, female, January 10, 1849, is a fine healthy child; has been ill about ten days. At first she had some strong cathartic powders, she and the other children in the family having thread-worms. She is flushed, and the skin very hot; the fever becomes increased towards night, and again slightly in the forenoon; sickness, pain at the epigastrium, and no appetite; is listless, and indisposed to move or play about; very fretful, constantly picking her nose and fingers; the bowels are now much relaxed, being open seven or eight times in the 24 hours; motions offensive, brownish. Tongue covered with white fur. Pulse 130. She is very sleepy and drowsy, but her sleep is disturbed, and there is delirium at night.—℞ Sodæ Sesquicarb. gr. v.; Syrup. Papav. ♏v.; Vin. Ipecac. ♏v.; Ex Aqua, ℥ss.; ter die sumenda.

13th.—Tongue getting gradually cleaner. Pulse 120. Last evening there was a severe accession of fever. Bowels moved twice yesterday; motions offensive; has pain in abdomen on the right side. Rep. Mistur. ℞ Hydr. c. Creta, gr. j.; P. Ipecac. Co. gr. iss. M. o. n. sumenda.

15th.—Bowels regular; motions more healthy. Tongue cleaner; less restlessness and delirium at night. ℞ Quiniæ Disulph. gr. ss. ter die sumenda.

20th.—Convalescent.

This case evidently arose from malaria; and at the time other children in the same street were suffering from acute attacks of fever.

Case X.—*Acute Remittent Fever.*

M. A. H., æt. 6, female, November 1849. Situation open; weather damp and mild. A delicate child; mother phthisical; has been ailing about a week, and on several occasions noticed to have a decided shivering, and complaining of feeling cold, followed by heat of skin. Her symptoms were those of fever, apparently idiopathic; tongue covered with a dark brown fur; breath very offensive; bowels rather costive, but easily acted on; motions abnormal, occasionally dark and offensive, at other times pale and clayey; urine high-coloured and scanty; countenance heavy, dull, and sallow; very fretful; there is great heat of skin, but no decided regular remissions of fever, although at times she is freer from fever than at others. The disease lasted about eight days before the symptoms began to abate, during which the treatment was Jul. Amm. Acetat. c. Spt. Nitri, and afterwards the soda mixture, and the bowels regulated by Pulv. Rhei c. Hydr. c. Cretâ. She had very sleepless nights before the disease gave way, for which Hydr. c. Cretâ gr. j., P. Ipec. Co. gr. iss. operated like a charm, producing refreshing sleep. The pulse was quick throughout.

The case was one of simple fever, of

an acute character, but of short duration, partaking of the continued type, attended with great gastric irritation, but not complicated with any other affection. As convalescence began, there was some picking of the nose and face. For a week she would take literally nothing.

Case XI.—This is a good illustration of the acute form of "true remittent fever," arising from malaria, abridged from Dr. Bird's paper in Guy's Hospital Reports, vol iii. new series.

Acute Remittent Fever, with Erythema.
(Case I. of Dr. Bird).

A male, æt. 7, residing in Bermondsey: ill one week before admission with headache, followed by rigor and fever, becoming worse in the evening, and delirious; severe exacerbations every evening.

Dec. 22d.—On admission the fever had remitted; the skin was tolerably cool; expression desponding; eyes dull and heavy; pulse quick; manner peevish; no diarrhœa; motions dark and offensive; tongue red at apex and edges; elongated papillæ projecting beyond a white fur.

24th.—In three days the exacerbations were severe, and the remissions complete: constant frontal headache; nausea; pupils active. Duration of illness sixteen days.

Treatment consisted in—Hyd. c. Cretâ gr. v. et postea Ol. Ricini, ʒij.; Julep Menth. c. Soda; and after the remissions were complete, Quinæ Disulph. gr. ii. quartis horis. Arrow root and mutton broth.

[To be continued.]

CASES OF

FIBRO-CELLULAR TUMOR IN THE SCROTUM:

WITH REMARKS.

By C. R. Thompson, M.R.C.S., L.S.A.
Oxted, Surrey.

(*Read before the Abernethian Society, on Thursday, Oct.* 31, 1850).

The structures composing and contained within the scrotum are so various, and liable to so many different diseases, that tumors occurring in that region must frequently present the greatest difficulty of diagnosis. The integument is a favourite seat for the development of tubercular or carcinomatous growths. The cellular tissue may become affected, together with the skin, by hypertrophy and induration, or in it may be developed tumors of a fatty* or fibrous character, such as occur in the cellular tissue of other parts of the body; or, again, it may be the seat of inflammation, or of effusions of urine, pus, or blood. The testis and its appendages are subject to many and widely differing diseases; and lastly, into the scrotum the varieties of inguinal hernia may force their way

It is only by carefully studying the features presented by each disease that we can hope to attain to a more certain diagnosis; and the more unusual the case, the more imperative is the duty of the surgeon to record its peculiarities. With this view the following case is offered to the Society.

Case.—W. W——, aged 70, first applied for advice in July, 1849, on account of a tumor occupying the scrotum, and presenting the following characters:—

The tumor, about as large as a bullock's heart, distended the whole left side of the scrotum, encroaching also considerably on the right half, particularly at the base, and almost entirely burying the penis. Somewhat oval in shape, it resembled, at first sight, an enormous hydrocele; but, on closer examination, was found to be uneven and rather lobulated, some parts being hard and brawny, others soft and fluctuating. A small protrusion at the lowest part of the tumor appeared to be the left testicle, pushed down before the growth, and either adherent to it, or firmly fixed by its pressure. There was some fulness about the abdominal ring, but the tumor did not appear to pass up as high as the ring; the spermatic cord hard, and about the size of one's finger, being felt for a very short interval between the tumor and the external ring. On examination with a candle no part was found capable of transmitting light. No impulse was to be perceived in the tumor or at the ring, on coughing or exertion. There was no enlargement or induration of the inguinal glands. The introduction of a small grooved needle into a soft fluctuating part was followed by a few drops of blood only.

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* Med. Gaz., vol. xxxvi. p. 177.

The right testicle appeared healthy, and occupied its usual position.

History.—The patient was of a dark sallow complexion, and of cachectic appearance; a shoemaker; the father of a large family; very healthy throughout life, and generally temperate. He stated that the tumor had been *eight years* in arriving at its present size, during which time he had never consulted a surgeon about it. He first perceived the swelling and hardness just above the left testicle in the scrotum, and, he thought, not connected with the testicle. No cause could be assigned for its appearance, he not remembering to have received any blow or injury to the part. It went on steadily increasing in size, carrying the testicle down in front of it. The tumor had never given him much pain, and was troublesome chiefly from its size and weight. The bowels had always acted naturally, and micturition was effected without difficulty.

The patient visited St. Bartholomew's Hospital, and was carefully examined. No positive diagnosis as to the nature of the tumor was pronounced; and, on account of the age of the patient, the little pain and slow advance of the growth, the uncertainty as to its character, and probable difficulty of fairly excising it, it was decided that no step could be taken to rid him of the disease.

He afterwards, in the course of the following winter, was admitted into another metropolitan hospital; where, under the idea that the disease was a large hernial protrusion, he was kept in bed for some weeks, with little or no diminution of the tumor, and greatly to the detriment of his health.

During the past nine months the tumor has steadily and rapidly increased, for some time confining him entirely to his bed, by its great weight and size. The mass became very nodulated, and the superficial veins much distended.

In August last one prominent part became red and painful, and then sloughed, giving rise to some hæmorrhage; from that time great portions of the tumor have successively become gangrenous. In September one of the distended veins gave way, and some three pints of blood were lost, but the hæmorrhage was stopped by a twisted ligature. From this time the patient never rallied, but became gradually weaker as the tumor went on sloughing, and some oozing of blood continued, and he died on September 28th, 1850.

During the last two months he had suffered much pain, chiefly in the glans penis, and about the base of the tumor; and took large doses of morphia, which, with lotions of chloride of lime to the tumor, formed the only treatment.

Post mortem examination.—On removing the integuments from the base of the tumor, a dense fascia was exposed, tensely stretching over it, continuous with the aponeurosis of the external oblique muscle, which it appeared to have lifted from its insertion into the front of the os pubis. The tumor appeared to have thus, as it were, pushed its way into the external ring and inguinal canal; but the *internal* abdominal ring was free, though compressed and somewhat displaced by the growth.

The great omentum lay perfectly free, and apparently healthy; nor did the intestines present anything abnormal in situation.

The tumor itself appeared to consist of two distinct portions: the upper part, or base, forming about two-fifths of the whole, was perfectly white, lobulated, and very tough; and on section the edges everted greatly, and the substance looked fibrous and glistening: the lower part, of which some portions had sloughed, was more dense and compact, of darker, blood-stained colour, having somewhat the appearance and consistence of congested liver. One projecting nodule, near the part which had sloughed, appeared red and fluctuated, and on incision some thin pus escaped.

The penis was pushed to the right side of the tumor; was much compressed and wasted.

Mr. Paget kindly furnished me with the following account of the microscopic examination of the tumor:—

All the parts examined consisted essentially of a tissue resembling in its minute characters the common areolar tissue. The masses were very tough, but when dissected for the microscope they appeared composed of delicate and soft undulating filaments, variously interwoven. Many such filaments floated out singly from the sides of the specimens, like filaments of the most organized fibro-cellular tissue. When acetic acid was added, it made the tissue transparent, and brought into view abundant nuclei imbedded in it, as in the fibro-cellular tissue of the child—nuclei that were well defined, oval, and rather elongated.

In the white portions of the tumor none but the forms described were found; in the dark-coloured portions there were abundant products of inflammation infiltrated into the same tissues. In all these portions blood was found, as if effused; and with it were corpuscles exactly like inflammatory exudation-cells, elongated fibro-cells, granular matter in free granules, or granular cells,—all such forms as commonly occur in the substance of inflamed organs.

This tumor was evidently analogous to the fibro-cellular growths which are met with in the cellular tissue in various parts of the body,—a growth differing from the œdematous enlargement of the whole scrotum—the *elephantiasis scroti*—in that it did not involve the integument nor the whole cellular tissue, but rather was contained in a proper cellular capsule. The growth was altogether of a more solid and compact consistence; and, although it felt fluctuating at parts, this seems to have been owing to its extreme elasticity and the tension of the integument over it.

Tumors of this description are not of very uncommon occurrence in the labia externa of females;* but they rarely present themselves in the scrotum. Mr. Lawrence states, in a clinical lecture†, that he had never met with such a tumor in the scrotum; and I have not been able to find any published record of a similar case.

In the museum of St. Bartholomew's Hospital is a drawing of a tumor which presented very much the same characters as the one related, and for whose history I am indebted to Mr. Paget's notes.

Case.—A carpenter, aged 74, in good general health, was under Mr. Stanley's care, on account of a tumor in the scrotum: it had been growing four years, and he thought it was caused by rough riding many years previously, but gave no very clear account of it. The tumor was supposed to be an enlargement of the testicle. A collection of fluid, like hydrocele, was felt in the lower part, and was tapped. A large hernial sac existed above the tumor; and being in doubt how far this might extend into the scrotum, Mr. Stanley did not recommend the removal of the mass. The patient left the hospital, and the tumor increased, until, at death, it weighed 24 pounds, and measured about 18 inches in length and 8 inches in breadth, hanging, a huge mass, between the thighs.

After death, a large hernial sac was found at the upper part of the tumor, quite above it, and so loosely connected with it, that the tumor might have been removed without opening the sac. At the lower and front part lay the testis, flattened and expanded, with its epididymis similarly altered, but, like it, of healthy structure. The tunica vaginalis was thickened, dilated with serous fluid, and flattened over the tumor. The tumor formed an oval mass, easily separated from the adjacent tissues; its whole surface was divided into lobes, obscurely and imperfectly separated in the central parts, but on its exterior standing out prominently: its chief part consisted of tough, elastic, cellular tissue, closely and compactly interwoven; in many parts infiltrated with bright yellow fluid, and in all parts very moist. It was of a pale, nearly white colour, streaked here and there with pink, where vessels principally collected. Parts near the surface were softer and more gelatinous, almost like the texture of firm gelatinous polypi. By microscopic examination the structure was found to be exactly resembling that described in the first case.

Case.—A tumor has been described by Mr. O'Ferrall, in the Dublin Medical Journal,* which has so many features in common with the above cases, that I think it may be classed with them.

The patient was 44 years old; the tumor hung down nearly to the knees, drawing the integuments from the pubis and groin; the skin over it was smooth, and traversed by large venous trunks, from which occasional severe hæmorrhage took place. The consistence of the mass was unequal; some parts being of a cartilaginous hardness, others soft and elastic. The right testis was healthy; the cord of the left side could be felt for about an inch of its extent, and then appeared lost in the tumor. The patient pointed to a spot at the lowest part of the mass, where, from the sensation on pressure, he believed the left testis was situated. There were no enlarged glands in the groin. The tumor had been perceived ten years; first as a hard swelling, about the size of a marble, on the cord. It enlarged slowly, and without pain. The tumor was removed by operation, and the patient quickly recovered.*

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* In museum Roy. Coll. Surg. is one weighing 10 lbs. In museum St. Bartholomew's, series 35^{14}, is one described by Mr. Lawrence in Med.-Chir. Trans. vol. xvii. p. 11.

† Medical Gazette, vol. xxxvi., p. 177. Mr. Earle amputated a similar tumor in 1831.

* Vol. i. 1846, p. 52.

The morbid growth was found to be enveloped in a loose cellular capsule. On section, it appeared like one of the larger varieties of fibrous tumor of the uterus, and consisted of a number of lobules, separated by condensed cellular tissue. Some parts appeared to have undergone a change approaching the character of encephaloid disease; and, on microscopic examination, Dr. Houston found them to present "the mixture of fibres and cells characteristic of malignant structure."

The left testis was found in the position indicated by the patient; it was atrophied, but otherwise unchanged, and lay enveloped in its moist and polished tunica vaginalis. The cord above was lost in the tumor.

Mr. O'Ferrall appends some very interesting remarks to the case, but chiefly in reference to his operation: he considers the tumor to have originated in the cellular tissue in the neighbourhood of the spermatic cord, and then, as it increased, to have carried down the testis in front of it.

These three cases prove satisfactorily that the cellular tissue of the scrotum may become the nidus for the development of a growth similar to the fibro cellular tumor of the labium. Whether that disease commenced in the dense fibro-cellular tissue immediately investing the cord, its fascia propria, or in the loose cellular tissue of the scrotum, seems doubtful. I think the histories rather indicate the former. It is, perhaps, only a coincidence that in these cases the tumor implicated the *left* cord and *left* side of the scrotum; but possibly the greater length of the cord on that side may render it more obnoxious to any injury which might induce the disease. In their slow progress, almost entire freedom from pain, as well as in their lobulated outline and unequal consistence, these tumors resemble the fibro-cellular growths occasionally met with in other parts of the body. That they may attain to an enormous size without destroying the integrity of the testis is perfectly shown in the two last cases; and in the first I have no doubt the testis remained unimpaired until sloughing of all the most dependent parts of the growth took place; as, up to that time, the patient distinctly indicated a point at the inferior apex of the mass where pressure produced the same sensation, both to himself and the surgeon, as on pressing a sound testicle. They do not appear to involve the tunica vaginalis, nor, in two of the cases, did the tumors exert pressure on the veins of the cord so as to induce hydrocele or hæmatocele. Mr. O'Ferrall's case sufficiently proves that they may be removed successfully even when of great size; the chief difficulty being the severe hæmorrhage from so vascular a tissue as that of the scrotum. In my first case, even at the age of 70, the patient should, I think, have been relieved of his burden, had we been able to decide the nature of the morbid growth; as it entirely took away all comfort, by its size and weight, and quickly destroyed him by repeated hæmorrhage and sloughing.

There are many other points of considerable interest which present themselves on a perusal of these cases: particularly as to the diagnosis of the tumor from hernia, malignant or sarcomatous enlargement of the testis; from hæmatocele, or hydrocele with thickened sac: as to the operation, the means for preventing hæmorrhage, &c.: to enter into which would far exceed the limits of a paper of this description.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 22d May, 1851:—Henry Thompson, Croydon—Alfred Carpenter, Rothwell, Northamptonshire — Edward Wilmshurst Taits, Heytesbury, Wilts—Henry Joseph Herschel Griesbach, Millington, Yorkshire — Francis Martin, Brighton.

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* This man died, a few months after the operation, of acute phthisis. Both lungs were thickly studded with miliary tubercles. In the substance of the right lobe of the liver was a solitary hard tuber. No reproduction of the tumor in the scrotum, nor any other deposit in any organ or tissue.

CONTRIBUTIONS TO MEDICINE.

THE STATISTICS OF CLIMATE AND DISEASE;

WITH REMARKS ON THE DURATION OF LIFE AND PREVAILING DISEASES OF OUR COLONIAL POSSESSIONS, AS COMPARED WITH THOSE OF EUROPE, ASIA, AFRICA, AND AMERICA.

From the Private and Official Reports of Visits, and a Residence in each Country, since 1842.

By James Bowen Thompson, A.B., M.D.,

Formerly Physician to the Royal General Dispensary, Aldersgate Street; late Chief Medical Officer to the British Hospital, Damascus; and Inspector of Health for the Turkish Government; Fellow of the Medical Society of London.

[Continued from p. 810.]

No. VI.

ON THE LEPROSY OF THE EAST, AND SOME REMARKS THEREUPON.

The Leper Asylums of Damascus are two in number,—one, the Christian Leper Asylum, in the city, and supposed to occupy the site of the house of Naaman, contains from thirty-five to forty-five patients—the majority *male* adults; the second asylum is beyond the walls of the city, and chiefly occupied by Mohammedans—from forty to fifty adults, and in like proportion as to *sexes*. The disease does not appear before the period of puberty when acquired, and, when hereditary, does not assume an ulcerated or aggravated form before the twenty-fifth and thirtieth year in the male, but earlier in the female by some years. The origin of this frightful malady has been traced to Egypt, whence it spread gradually to all the countries of the East. It was transported by the Phœnicians into Greece; it followed the Romans on their return from Asia; and from the 12th century to near the end of the 15th century was the terror and scourge of Europe, being introduced there a second time by the Crusaders. It seems invariably to have attacked those chiefly who lived on rancid food and stale fish, breathing at the same time insalubrious air: hence islanders, who depend on their fisheries for support, have been peculiarly prone to it. It exists to a frightful extent in the south and western parts of Iceland, and has been admirably described by Henderson. It is unquestionably one of the most terrible afflictions of the human race, though not always equally fatal: the patient may linger on to fifty and sixty years of age, covered with livid blotches, rents, and scars, or glassy-looking scales, intersected by reddish streaks and large white spots: the hair falls off; the body emaciates; the mind is impaired; and often an unctuous fluid exudes from the skin and nails, which is offensive and irritating: the look is wild and haggard; the features distorted; and at last ulcers break out, and death—the long-wished-for deliverer—puts an end to the wretched patient's suffering. There are so many varieties of the disease, and so many different names have been given to each, that we no longer wonder at the discrepant accounts that have been published. Frequent allusions are made to it in the Bible; and, as Mr. Henderson justly observes, it is evident, from the complaints uttered by Job, the general strain of argument used by his frends, and other circumstances, that that pious man was afflicted with one of the worst forms of Oriental leprosy. The change of weather, and the dry or moist state of the atmosphere, very much affect leper patients and their sores, especially if the latter be on the face or upper part of the chest. The disease seems, in an advanced stage, to pursue a similar course to that of an aggravated form of syphilis, and to affect the same tissues; such as the cartilage of the nose, the soft palate, and bones of the nose and ear; and the circulation gets languid; and in advanced life the extremities of the fingers and toes are apt to drop off, as in the gangrena senilis, or as from frost-bite. The people speak in low whispers, and the chest suffers, and catarrhal or bronchitic affections are common in old leper patients: the bowels are also irregular, and generally relaxed. The words in Scripture are very striking: he is said to have been smitten with a "malignant ulceration" (shehinra); or, as it stands in the English version, "with *sore boils* from the sole of his foot unto his crown:" and as this disease was both dreadful in its symptoms and incurable, it was viewed by the ancients as a peculiar punishment inflicted by God on such as were guilty of some flagrant act of wickedness; and it was called by the Hebrews "nega tzeraatti—the stroke of the scourge." Hence Job's wife, viewing his recovery as impossible, bids him "curse God, and die!" His being unable to make any further use of his fingers; the corroded, stiff, cloddy, cracked, and loathsome state of his skin; the fœtidness of his breath; the gloominess of his looks; the pain in his bones; his wearisome nights and terrific dreams; his wishing for death, and his being shunned by his intimate friends and relatives,—these, and other characteristic points enumerated, all show that the Patriarch was afflicted with the true Arabian leprosy: moreover, one of the Hexaplar versions actually has **Ελεφαντι**, *the Elephantiasis* (Job, ii. 7). And this loathsome affection is still common at Damascus, in the vicinity of which Job is supposed to have resided. Of late years the Damascenes are exempt from the disease as amongst themselves, the chief cases being brought in from the surrounding country—the Hourane in the East and North, and from different villages in the South and East towards the Jordan, and Southern Palestine, and Egypt: these are more aggravated, and run a destructive course; very little can be done for them. They are neglected in the first instance, and, from inattention to cleanliness, and the bath, and ablutions, and proper dressings, and a total disregard of treatment, medical or dietetic, the disease runs a rapid course: with proper care, and good air and diet, and the mineral acids, and dulcamara or sarsaparilla, and alteratives, much can and has been done, and the disease, if not cured, is greatly modified, and disagreeable symptoms palliated, and the patients made much more comfortable and happy; and in fine weather they can do some little work for themselves, or go about and collect alms for the worst cases in the asylums: and this is generally the mode adopted at these institutions. The patients who are able to go about their work are allowed to walk into the towns and surrounding villages and beg, and on their return distribute the proceeds of their labours; and to do the natives of the country justice, even the Mohammedan people are equally as generous on these occasions as their Jew or Gentile neighbours; indeed, in many instances, more liberal. The disease of leprosy is not always attended with pain; it commences with a pale reddish tumid spot in some part of the body, which remains stationary for some time; others then make their appearance; and at last an eruption, which proceeds insidiously, and becomes chronic. In the meanwhile the constitution is undermined; and it may justly be said that a person labouring from inveterate leprosy resembles, as the Icelanders designate it, "a rancid putrefying corpse;" and in the East it is significantly styled "the first-born of death,"—an appellation which the following melancholy account, communicated by a correspondent in India, fully justifies:—"Being upon a *Shirkar* expedition, upon elephants, we pitched our tents near a small *Chowkee*, named 'Rhanneserge,' about twenty miles from the town of Jellasore, which is situate on the high road to Juggernaut, and taking advantage of the coolness of the morning, we proceeded on our route towards the heavy jungles equidistant between the two aforenamed stations. As we proceeded onward, our attention was directed to a human being, or rather object, lying on the road-side, extended upon the arid turf. He was motionless, and evinced no signs of life; but, on hailing him, he raised one of his arms, which was white and withered, which immediately convinced us he was *a leper*. We descended from our elephants, and approached this miserable object of humanity. He was partially shrouded by a filthy sheet, which was the colour of the earth on which he lay. His bones were protruding through the skin—for flesh he had none—and the nails of his fingers were long and incurved, precisely resembling the talons of a bird of prey. The fore-joints of his toes were completely corroded away, and large maggots were to be seen moving within the sockets of the joints, which appeared eating their way into his feet. He was utterly unable to raise himself from the ground, and could but faintly articulate to the few questions we put to him. A cocoa-nut shell lay by his side, from which he had been accustomed to drink; but upon inquiry we found that he had neither money nor food. He told us that he had come all the way from Hourah, opposite Calcutta, was of the potter's caste (a very low one), and that he was a pilgrim on his road to Juggernaut. We poured some brandy into his humble goblet, and applied it to his lips, but he was unable to swallow much of it. It was utterly impossible to afford him any relief; for none of our servants could be prevailed upon to go near him, and money was of no avail to him, as he could make no use of it. We therefore abandoned him to the dismal and distressing fate which thousands and tens of thousands of pilgrims like himself had shared before him. As there was a small company's 'bungalore' at the town of Dautoon, for the accommodation of *dak* travellers on that road, we slept there during that night, and on the following morning at day-break left for our tents at Rhanneserge.

"On passing the spot where we but the day before had communed with a living being like ourselves, a strange contrast to the picture presented itself to the eye. Nothing but a skull and a few loose bones lay distributed around the tattered garments, which had alone survived the body, that they, but on the yesterday, had covered. The jackals and the vultures had screened from the eye what the funeral 'pyre' and the grave were each unwilling to conceal."

Another of the appalling sights presented to view in the streets of Cairo, is the disease more strictly entitled elephantiasis. It is of very frequent occurrence, and attacks males rather than females; healthy robust-looking men are continually met, dragging after them a leg three times the natural size, and precisely resembling that of an elephant. No satisfactory reason has been assigned for it, and there does not appear to be any remedy. The authorities have been in the habit of sending these two classes of patients to Syria for several centuries, not because there are not hospitals at Damascus for their reception, but from a superstitious veneration for the waters of Abana and Pharphar, added to a desire to get rid of them.

Herodotus informs us that formerly, in Egypt, a physician usually confined his practice to one disease; and "the Babylonians," he says, "had *no physicians*, but carried their sick into a square, where it was thought they might get advice from any of the passers-by who had suffered from the same complaint." "No one," he adds, "may pass a diseased individual so exposed in silence, or without inquiring into all the symptoms of his case." The same custom of exhibiting the sick to the public, and of calling in the neighbours that they may receive the benefit of their experience, prevails extensively in the present day in Egypt, and Syria, and Persia, although there is no law on the subject. The account of Naaman the leper, in the Bible, is very remarkable; and studying the accounts there given with what one witnesses in the East, there is a close resemblance; in fact, no modern pathologist could enter more minutely into detail, or describe so correctly the great variety of the disease of leprosy that is met with. The priests were the judges of the disease of leprosy, and even of that called house-leprosy, and which arose from the fact of the saline efflorescence on the walls: and the days of purification for same gave rise, in all probability, to the first quarantine regulations.

The word "smitten of God," as applied to leprosy, is connected with "stricken," as if the stroke of leprosy were a direct infliction of God. And, again, how impressive are the expressions—"My wounds stink and are corrupt," "my loins are filled with a loathsome disease," and "there is no soundness in my flesh." The smell in the ward of a leper hospital, when the wounds are being dressed, is something indescribable: few old students even can stand it at first, and many young surgeons are obliged to forego attendance upon the hospitals in consequence. The sympathy and interest which these wretched beings inspire, combined with a desire thoroughly to investigate the disease, gradually enabled me not only to bear up under the effluvia, but even to dress very offensive sores. In its worst forms it is incurable, and it appears to be a disease which it was never meant that man should be able to control. It is only a divine power that can restore the pale loathsome leper and his putrid sores, to the beautiful vigour and health of man in a sound state of body. This privilege is not for human science, but remains for the arm that can raise the mouldering carcass from the grave. The three indications of leprosy are, a rising or boil, a scab or small tumor, and a bright spot. The native practitioners at once can detect the incipient tendency to the disease, even before these symptoms noted are perceptible. The priests of the different Christian denominations, with the Rabbis of the Jewish persuasion, and the Ulemas and the Durweeshes of the Mohammedan faith, are all equally skilled in this respect; they being the chief depositories of medical science at the period when the disease was more rife and common than at the present day.

The treatment pursued, as regards early cases of the disease, in a household, is at once to isolate the person from the other members of the family, to apply leeches, if there be much local irritation, simple dressings; cold water, with oiled silk, is invaluable, and the latter is a great comfort: it protects the raw sore from the air, and is soothing to the feelings of the patients: they always expressed themselves most thankful on its first application. Their nights are more composed in consequence, and the irritation and annoyance of the old system of dressing is avoided. The early Arabian surgeons had recourse to something equally useful as the oiled silk—this was either the caul of the lamb's kidney or a piece of bladder, laid on over the ulcer or abraded surface; alterative medicines, the Hydr. c. Cretâ, or the " Mudar" of India, the Asclepias gigantea. The use of the latter is comparatively modern, and not so much relied upon for its specific qualities as we would be led to hope for from the favourable reports of its therapeutic properties since the days of Robertson in India. The old remedies were more dietetic and alterative, and latterly the use of taraxacum, mineral acids, and sarsaparilla, with the hydriodate of potassa, seems more beneficial: and from my personal experience from a residence of seven years in Turkey in Asia, and in attendance upon the two asylums in Damascus for the greater part of this time, I am inclined to give the preference to the latter remedies. Much can be done in young persons by good diet, pure air, and clean clothing, regard to ablution, and no exposure to vicissitudes of climate, and abstemious regular living; no excesses in any respect.

On inquiry I found it to be agreed upon on all hands, that where both man and wife were diseased with leprosy, they never were known to have children: but it was quite a common occurrence to have an offspring where only one of the parties was diseased, and in such cases the disease did not always appear in all the children of that union, and only in about every one in three, and more frequently in the male than in the female; and it did not appear very often in such cases before the seventh and tenth year, rarely as early as three or five; and if attended to at this period there was every prospect of saving the child from an aggravated form of the disease: at least judicious remedies were sure to be so far successful as to modify very considerably the form of the disease. In cases where the disease was not hereditary it was supposed to be acquired from some peculiar predisposition in the party; or if the family were of a scrofulous diathesis, this was always a predisposing cause: and, indeed, in all the cases of leprosy that present themselves, you would say that the general appearance indicated a peculiar strumous character: low living, bad air, and a disregard of cleanliness, are chiefly assigned as the causes of acquired leprosy, and these are no doubt of themselves quite sufficient to do so, and where there is an unhealthy constitution they must tend still more to develope a disease, if not pure leprosy, very nearly allied to it. The disease is rather on the decline latterly in the East, and the regard to sanitary laws, the more respect to kindred ties in regard to intermarriages, all tend, I am satisfied, to ameliorate the previous state of the disease.

There is a good deal of the disease in a bad form amongst the Jewish population of Palestine at the present day. The Jews of Damascus are comparatively exempt from it; and for this reason they state that they are more regardful of performing their ablutions when cohabiting with their women, and that Mohammedans and Christians cohabit with their wives and concubines, while they, the latter, are unclean,—that is, at the season of their monthly courses, whereas the Jews look upon this as against their laws, the Talmud and the Mosaic laws. The Jews latterly, finding the evil consequences of intermarriages, are leaving off giving in marriage their nephews and nieces as formerly, and many diseases entailed on families by this will shortly disappear. Many cutaneous affections were thus generated, and a bad form of psoriasis was common amongst the Jews of the East.

The disease of syphilis very much resembles forms of leprosy that are met with in the East; and the same mode of treatment appears applicable and equally beneficial. I can only account for this by the fact of the former disease having been introduced by the Crusaders into Syria and Palestine, and by our soldiers in Egypt; and the disease spreading in course of time amongst persons affected with leprosy, and both diseases being somewhat analogous, so far as affecting the constitution, and the various tissues in a somewhat similar manner, produced in the course of years, indeed ages, a modified form of each disease, similating the one and the other, and retaining some few distinctive characteristics of each. The same treatment being applicable to each would corroborate this view; but be it so or not, it is well to know this latter fact.

[To be continued.]

GANGRENE OF APPENDIX VERMIFORMIS.

Case reported by Dr. Storer.—The patient was a boy twelve years old, under the care of Dr. Cutter. Was taken on Friday, Oct. 16th, with symptoms of peritonitis. Dr. Storer saw the case in consultation on Friday last. The patient was lying on his back, with the knees drawn up, suffering extreme pain in the region of umbilicus, and from dyspnœa; with great tenderness over the whole region of abdomen. Had had no motion since Sunday. The patient died on Friday, the day of Dr. Storer's visit, after one week's illness. On examination after death, there was found gangrene of the appendix cœci, and, contained within its cavity, an oblong, oval mass of hardened fæces, with *several short pieces of hair running through it:* no perforation had taken place. There was general peritonitis, with a purulent deposition in the cavity of the pelvis. The omentum was very purple, and also that portion of the peritoneum that lines the external walls of the abdomen. The fæcal matter contained in the appendix was quite hard, and in layers, compared by Dr. Cutter to some calculi he had seen.

Dr. Bigelow remarked, that two questions naturally suggested themselves in regard to these cases; 1st, why certain bodies should in some instances find their way into this cavity, and not in others; and 2dly, why such bodies should, in certain cases, produce inflammation of the part, while in others they remain for years in this cavity, without producing any morbid results.

Dr. B. alluded to two cases, in one of which two calculi were found in the appendix, which must have been there for a considerable time before the inflammation came on, which proved fatal to the patient. The other was the case of an eminent physician, who died at an advanced age, and in whose appendix were found a large number of shot which had been accumulating there for years, without being followed by any morbid consequences.—*Am. Jour. Med. Sc.*

MEDICAL GAZETTE.

FRIDAY, MAY 30, 1851.

If any fact be well ascertained regarding the present mode of supplying the metropolis with water, it is that the inhabitants have hitherto enjoyed perfect immunity from any risk of poisoning by lead, notwithstanding the almost universal employment of this metal for collecting and transmitting water. The Board of Health have made a hard struggle to condemn the waters of the Thames, Lee, and New River, on the ground that they *act* on lead: thus leaving the public to infer that they are just as liable to be poisoned under the present mode of supply as by the substitution of what is designated "pure" water. In order to support this fallacious view of a question which, in reference to the public health, is of great importance to the whole community, they bring forward the evidence of a few plumbers, who depose that *hard* waters corrode lead, while soft or rain water has no action whatever upon it. They have also been able to procure chemical opinions to the effect that *hard* waters act upon lead, dissolve it, and render the poison invisible: *ergo*, the population of London has been, for the last fifty years at least, daily exposed to an epidemic of lead-colic from the use of Thames water; and yet, owing to some cause or other, which the chemists consulted by the Board leave unexplained, this formidable disease, as a result of the use of Thames water, is wholly unknown.

Perhaps the best method of examining this question is to look to our hospital population, among whom such cases, if they existed, would certainly be found. Taking three of the largest of these in stitutions,—St. Bartholomew's, Guy's, and the London,—the first supplied by the New River, the second by the Thames, and the third by the Lee River,—we find the average number of in-patients per annum to amount to 13,765 persons. So far as we can ascertain by inquiry, cases of lead-colic from the use of the London water are wholly unknown: neither the patients after their admission, however long the period for which they remain, nor the nurses, sisters, or other hospital attendants, suffer from any symptoms which can be referred to the action of river water poisoned by lead. A distinguished physician connected with one of these hospitals, which receives four thousand in-patients, and seventeen thousand out-patients per annum, has made diligent inquiry into this subject, with the result that, although he has been many years connected with the institution, and has seen many cases of lead-colic, *not one* of these cases has been referable to the use of river water; all have been traceable to the various occupations of men in those arts and manufactures which are known to give rise to the disease. In recording his experience, we believe that we are recording that of every hospital physician and practitioner in London. There are three medical journals specially devoted to the collection and publication of cases which present ephemeral interest. It would, we believe, be difficult to point out in any one of these a single instance in which a case of lead-poisoning has arisen from the use of the Thames, Lee, or New River Water. On what pretence, therefore, is it asserted, and are the public led to believe, by the *ex-parte* statements of ignorant or interested persons, that they incur danger from the use of Thames and the other river waters supplied through lead? The experience of half a century, not to mention the results of the experiments of competent men on the action of water on lead, proves that the statement is, in a practical point of view, untrue, and has been made merely for the purpose of exciting an unfounded prejudice against the present mode of supply.

Our readers will agree with us that this question must be viewed in its practical bearings. It is not whether a particular water has or has not a chemical action on lead,—because, probably, no water in the world is entirely destitute of some action on this metal,—but whether the chemical effect is such as to render it unsafe to use the London river water which has been kept in leaden cisterns or distributed through leaden pipes. The Board of Health, by their witnesses, state that *hard* waters act upon lead: the Thames water is hard; *ergo*, the Thames water acts upon the metal, and the London population ought to be theoretically poisoned, when practically the Board cannot produce a single case in which lead-poisoning has resulted from the use of this water. When facts, scientific and medical, were so adverse to the view which they wished to set up, it was not likely that they would be able to find either physicians or chemists of repute who would give evidence in their favour: and we look in vain in the list of witnesses upon this part of the case, for the name of *one* physician or of *one* chemist whose opinions would be received as worthy of credence. Those who were called are men of slender experience, not connected with the medical profession, and obviously incompetent to decide a question of such vital importance to the inhabitants of London.

In the original Report of the Board of Health we find but little in reference to the supposed contamination of Thames water by lead. The Board either ingeniously evade the question, or merge the subject in an inquiry into the comparative effects of hard and soft waters generally, apparently considering that all waters which are hard or soft must be necessarily identical, and owe their hardness or softness to the same causes! Thus a Mr. James Stirrat, represented as a bleacher at Paisley, "a very respectable and intelligent witness, and a member of the Town Council of that borough," was asked:—

> "In London, it is stated, that, inasmuch as pure water corrodes lead more than other water, a supply of soft water might be dangerous, and might poison the population. How have you found the fact to be at Paisley?—There is no such effect; such an idea is *downright nonsense*. Corrosion in pipes takes place only under the intermittent supply, by the action of the atmosphere on the pipe in a damp state; and, as I have said before, an iron pipe constantly charged will not corrode at all, whether the water be hard or soft, and will last at least four times as long as a pipe where the air is admitted into it.
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> "Other witnesses corroborate the fact that, with some waters, the wear of pipes by the intermittent supplies is frequently very rapid; the rationale being that oxidation takes place whilst the pipe is empty, and that the oxide is swept away by the return of the water.
>
> "In cases where *colica pictonum* and dangerous accidents to health have occurred from the contamination of lead, we believe that it may be ascribed to the intermittent action of water upon long lines of leaden pipe."

We do not question the respectability of the witness, but we doubt his intelligence. Here, without reference to the *cause* of softness, whether owing to the entire absence of mineral ingredients from the water, to their presence in very small proportion, or to the presence of carbonate of soda in large proportion, we have it rather strongly asserted to be "downright nonsense" to suppose that *pure* (*i. e.* soft) water corrodes lead. Mr. Stirrat's opinion, too, is that the corrosion in pipes takes place only under the intermittent supply; and that, if a pipe be kept full, no oxide of lead will be formed, and the water may be safely used. The Board entertain the same opinion, for they believe that *colica pictonum*, where it has occurred, may be ascribed to the *intermittent* action of water upon long lines of leaden pipe. We need hardly remark that the air contained in water, however pure, will *cæteris paribus* exert a chemical action on lead, and that the statement above made is contrary to fact. Thus, in the page immediately following that from which we have quoted, we find Dr. Clark informing the Board that pipes kept full of water, unless this be constantly running, will cause the water to be contaminated with lead:—

> "I hold it in all cases to be *dangerous* to allow water to pass through any considerable length of lead pipes, or *to allow water to remain for a long time even in short pipes*. In the case of the marine villa before alluded to, the water came a considerable distance through lead pipes; I suppose above a quarter of a mile. The water in Aberdeen is brought from the iron mains in the streets, into the houses by means of lead pipes; and in general without any disadvantage, because the supply from the pipes is constant, and the use of the stop-cock very frequent in a family; but in my class-rooms and laboratory I find that whenever a pipe has been out of use for a few days, the water taken from it affords a trace of lead, which disappears when the water has been allowed to run briskly from the stopcock for a few minutes."

Dr. Clark here states what is a well-known fact to all experimentalists,—that pure water, unless entirely deprived of air by some artificial process, becomes poisoned by contact with lead, even although the leaden pipe or vessel be full. Thus the intermittent supply affords no security against this noxious impregnation, unless the water be kept continually running, or the tap very frequently used. The Board, therefore, in order to be consistent, are reduced to the necessity of recommending that the use of leaden pipes and cisterns should be discontinued as early as practicable!

From the question put to the Paisley bleacher, it will be perceived that the examiner is not aware of any distinction between ***pure*** water and ***soft*** water. Pure water is always soft, but soft water is not necessarily pure: it may owe its softness to the very small proportion of mineral matter contained in it: this may not be sufficient to render it hard in the common sense of the word. The examiner obviously does not know that ***pure*** water in ***all cases*** acts upon lead, while the witness ignorantly supposes that soft water is the same as pure water, and that the free access of the atmosphere to the leaden pipe in a damp state is indispensably necessary to chemical action!

Admitting that the question and answer did not show palpable ignorance of the subject under discussion, we beg to ask—What bearing is this evidence intended to have on the present mode of water-supply for the metropolis? The inhabitants of London, taking the statements of Mr. Stirrat to be correct, are just as safe with the present supply of River water as those of Paisley are with its soft water. If the question were put to competent witnesses, the idea of the London river water poisoning the people by its distribution through lead, might with equal justice be pronounced to be "downright nonsense."

The Board, it is true, do not directly make the charge, but they throw it out as an insinuation. Thus we are told:—

> "As a question of danger, however, a preponderance of testimony (?) establishes the conclusion, that ***hard*** water with an intermittent supply is actually ***more dangerous*** than soft water with a constant supply."

We have here the same confusion of hard and soft. Although the causes of hardness are manifold, some of them leading to a powerful action on lead, while others almost entirely prevent it, the readers of the report are led to believe that the metropolitan river water is here the subject of these dark insinuations. If the Thames, Lee, and New River waters be really referred to, why is not this openly stated? As it stands, the statement is a transcendant specimen of quibbling, worthy of being cited as an example of the art, by Mr. Smee, in a new edition of his "*Process of Thought*," *&c.*: for "hard" water may imply sea-water, water containing mineral or vegetable acids, or a large quantity of saline matter capable of acting on lead. In reference to London river water, which is now furnished on an intermittent supply, the facts we have already adduced respecting hospitals, and the general experience of the medical profession, are sufficient to prove that no dangerous results have arisen from the use of lead. With regard to soft water, the danger depends not on the intermittent or constant supply, but on the real cause of softness. Thus, then, we take it, there are no facts which, in respect to the use of lead, are adverse to the metropolitan waters, or to the mode in which they are at present supplied. Not being able to find any chemist in London who would adopt their views, the Board go to Liverpool, and there discover a Mr. Spencer, whose important experiments on ***Carrara Water*** and Sir James Murray's ***Fluid Magnesia*** are paraded in the Appendix as showing that ***Thames water*** ought to be poisoned by lead, and that it is a great mistake to suppose that the inhabitants of London are not now universally suffering from ***colica pictonum!*** We shall have some remarks to make upon the testimony of this chemist hereafter: at present we propose to examine the evidence given by the four working plumbers who were summoned by the Board to render an account of their professional experience.

The first witness states that the water

at Highgate corrodes, and rapidly destroys the bottoms of the leaden cisterns used for storing it. "The hard water eats the cistern away: soft water—that is, rain water—does not sensibly touch it at all." The witness further says that the water which has this highly corrosive action is well-water: he has no experience of the London water, except that of the New river: the cisterns which contain this, last twice as long as the well-water cisterns of Highgate.

The second plumber speaks generally of the bottoms of leaden cisterns being eaten through by the Thames water in three years: but there is no evidence that those who drank the water which possessed this highly corrosive action suffered from lead poisoning! He had had a cistern in wear with New River water without any corrosion taking place; and he thought that the difference of action arose as much from the lead-mines from which the lead came, as from the water which is used! He thought that all Thames water acted upon leaden cisterns; but as some of these which he examined were 200 years of age, and only half eaten through, it is obvious that the chemical action goes on very slowly. Cisterns for the New River unfiltered water would require new bottoms in *thirty* years. He had never found any trace of action on house service-pipes, but only on the bottom of the cisterns where the water remains. The witness further stated that, according to his experience, "rain-water never acts upon lead, and he never knew a rain-water cistern that was decayed: further, pure water does not act upon lead at all.

The third plumber deposes to the effect of Hampstead Pond water on leaden cisterns, the bottoms of which he describes as becoming eaten through by it, although, when kept clean, they may last seven years. Rain-water has no effect upon leaden cisterns or leaden pipes; and, as a general result of his observation, he would say that hard water acts upon lead in a greater degree than soft water.

The last witness states, as the result of his experience,—"The harder the water, the more it acts upon lead; the softer, the less it acts." The hard water eats away the cistern: "it eats away round the solder first, because that is the harder metal." He has generally observed the hardest metal first acted upon: and rain-water has no action on lead.

If we except the chemical testimony, such is the evidence upon which—contrary to the researches of Guyton Morveau, Christison, Brande, Cooper, and other experimentalists—the Board of Health rely, in order to prove that the river waters of London act upon lead, and that pure water has no action upon the metal. The facts deposed to by these non-scientific witnesses are, however, perfectly reconcilable with the experience of the best chemists. Thus the waters of Hampstead and Highgate contain nitrates,—salts which tend to act powerfully on lead.[*] The decompositions which take place in the foul sediment of dirty cisterns are such as also to favour a chemical action on the metal. There is probably here a production of nitrates, since these are occasionally found in Thames water. So with regard to rain-water: this, as it falls in London or the neighbouring country, may be soft, but it is not pure water; nor can it be taken as the type of pure water, or indicate what the action of pure water would be on an unoxidized or uncoated surface of metallic lead.

Forty millions of gallons of river water have been daily supplied to two and a quarter millions of people for many years; and to show the injurious action of these waters on lead, the Board of Health produce four plumbers, two of whom certify that the waters of Highgate and Hampstead (which are *not* river waters) corrode lead; while another deposes that he has seen some leaden cisterns which have been used for Thames water for *two hundred years*, and thinks that new bottoms are not required for unfiltered New River water in a shorter period than *thirty years!* The evidence, as far as it goes, merely strengthens what we believe to be the general and correct view, that whatever may be the effect of hard waters out of the metropolis, the river waters of London do not acquire any noxious impregnation whatever by their collection in leaden cisterns or distribution through leaden pipes, even with all the assumed danger arising from an intermittent supply.

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[*] The quantity of nitrates in an imperial gallon of the Highgate water amounted, according to Mr. Noad's analysis, to *fifty-six grains*; of which 40 grains were nitrate of lime and 16 nitrate of magnesia. Total saline contents, 100 grains: and yet this water is compared with the Thames water, as if it were identical in composition! Such a comparison obviously betrays ignorance or *mala fides*.

THE LUMLEIAN LECTURES

FOR 1851.

ON THE RECIPROCAL AGENCIES OF MIND AND MATTER.

Delivered at the Royal College of Physicians,

BY J. C. BADELEY, M.D., CANTAB.
F.R.C.P., Inspecting Physician to the Lunatic Asylums of Essex, &c.

LECTURE I.—PART II.

Sleep—theory of, operation of—Dreaming—Nightmare—Delirium — Somnambulism —Suicide—Epilepsy—Apoplexy—Paralysis—Instances of the power of the mind —Fear — Grief — Joy — Chloroform — Narcotics—Opium—their agency—Alcohol—Fainting.

THUS far I have cursorily alluded to some of the manifestations of mental influence in the form of those ordinary diseases which are daily subjected to our attention; and in so doing I have sought to refer the agency to that animal electricity which (as I have observed) so many physicians and philosophers consider the most plausible explanation. A careful contemplation of the phenomena can, in my opinion, bring us to no other satisfactory conclusion; and the more closely they are analyzed, and the more attentively examined, the stronger is the corroboration. But—

"Est quodam prodire tenus, si non datur ultra."

There is a boundary which we cannot pass, and there are secrets in nature, hidden from our eyes, which can probably never be revealed. The material organ of the mind is within our grasp,—albeit, its subtile essence still eludes it; as the mariner can shift his sails and shape his course through the deep, but cannot control or command the winds that waft him through it! The human mind, even in its highest state of culture, is inadequate to the attainment of many mysteries; but light from Heaven, which has shone on many scenes of former doubt and darkness, may yet conduct the diligent inquirer to truths such as human intellect has never hitherto attained.

We have taken a glance of the power of the mind in producing disease, and even death, and we have yet much before us as we advance. It may not, however, be irrelevant to direct our transient attention to its powers, and also to its condition, apart from disease,—viz. in a state of Sleep, a state in which the external senses and the voluntary motions are lulled into insensibility and temporary quiescence, whilst the involuntary motions are carried on with steadiness, though perhaps with some relaxation of their activity. Here, in other words, the functions of the brain are comparatively suspended; whilst those of the ganglionic system (though sharing a portion of the insensibility of the brain from mutual connection) enjoy, with modified change, their own inherent power. When the activity of the brain and nervous system has been exhausted (as occurs every 24 hours under the ordinary circumstances of existence), or when a greater demand than usual has been made upon them by excess in mental or muscular exertion, or by any other course tending to expend their inherent excitability, this well-known miniature of death ensues; it is, in fact, a most salutary provision of nature for the restoration of that *vis vitæ* which would otherwise quickly be expended altogether. During sleep the process of nutrition is also carried on more perfectly, and with increased activity; and this is in some measure proved by the increase of corpulence, and general deposition of adipose substance, in those who indulge unnecessarily in it. This is humorously instanced in the fat boy in "Pickwick!" Every farmer knows that, where sleep is perfectly sound, and the mind as well as the body is in deep repose, *both* rest from their labours, and regain their strength; and so imperious is the demand where either mind or body have been *entirely* exhausted, that neither silence nor darkness, nor uneasy posture,—nay, not even (as history can establish) the close approach of the hour of a public execution, can sometimes avert it. The fatigue of the body is, however, more inducive of it than fatigue of mind; for a close attention to literary labour frequently generates an irritability which prevents it; whereas in Captain Barclay's celebrated match of walking 1000 miles in 1000 consecutive hours, he was not only fast asleep (especially in the latter part of his task) the *moment* he sat down after completing his mile, but it was with the greatest difficulty that he could be aroused at the proper time for accomplishing another,—so powerful a sedative is exhaustion!

After a certain time, however (which is when the mental energies are recruited), the sleep becomes less deep, the waking fancy begins to work, and those inexplicable monsters of the mind called Dreams arise. They are the interludes between sleeping and waking,—where imagination is busy whilst reason is prostrate and sensation is torpid, and where, consequently, the altered balance of nervous power distorts the action of the brain, not unfrequently generating intellectual abortions of hideous and incongruous formation. This is painfully exemplified in what is well known by the name of *Nightmare*, where, under that abolition of voluntary power, a painful desire to exert the voluntary muscles arises,—although, as soon as those voluntary muscles regain their power, the phantom vanishes. This is consequent for the most part on cerebral irritation communicated by the gastric nerves during a paroxysm of dyspepsia.

Now it is the aggravated state of cerebral irritation attendant on fever which constitutes Delirium. Delirium is literally nothing more than a protracted dream during a state of disease; and as dreams generally consist of the revival of old associations respecting past events, or of new ones consequent on recent occurrences, which the intellectual powers are too much disordered to arrange, a confused mass of ideas is presented, and expressed aloud. Delirium, therefore, is a state of thinking, without the person being able to control the association of ideas, or correct his thoughts by external objects; sometimes they would appear to be prophetic, and their influence over the mind even fatal! A case illustrative of the power of dreaming is well authenticated in a lady, the daughter of Sir Charles Lee, who stated that one night, when she was in bed, a little old woman came, undrew her curtains, and said—"I am your mother, and to-morrow, by 12 o'clock, you will be with me!" The young lady arose, wrote a letter to her father, sealed it with black wax, and by 12 o'clock on the following day was dead,—so strong was the impression on her mind. There is an inscription on her tomb in confirmation of this extraordinary effect of the mind on the body, even during sleep. Many deaths have been predicted in dreams, and been verified; numbers in lottery tickets have been whispered in a dream, and been drawn prizes! and some useful admonitions have been communicated, — for which, "search the Scriptures."

Yet, although this is the ordinary state which constitutes dreaming, there is another state of sleep, named Somnambulism, in which the bodily functions are more under the control of the will than what usually constitutes dreaming, so that the individual *acts* under the influence of his conceptions. Here, while the senses are obscured, and all other objects are unperceived, the somnambulist manifests a faculty of seeing, feeling, and of discovering the object of which he is in pursuit; for he walks, and frequently over dangerous places, in perfect safety, and performs many of the common offices of life, and can occasionally hold conversation. The brain would fain appear to be secreting ideas under the influence of sleep, and telegraphing their fulfilment to the obedient muscles of volition. Many and ludicrous are the instances recorded by medical authors; nor has the dramatist let pass the opportunity of amusing the public by the representation of these vagaries of Morpheus—"La Sonnambula," to wit. I could relate many; I will only, however, adduce *one*, which came under my observation in a young lady of sanguine temperament and high nervous irritability, and who was under my care. She was a person of highly cultivated mind, and devoted herself very closely to the acquisition of knowledge, which was very probably conducive to the irritation. After having been in bed and asleep for two or three hours, she would gradually rise, put on her dressing-gown, go down stairs, walk about the drawing-room, sometimes balance herself like a rope-dancer on the back of the sofa as she walked from one end of it to the other; then go into the dining-room, open the cellarette, help herself to a glass of wine, afterwards return to her bed-room, plunge her face into a basin of water, and get into bed again. When spoken to, she would mutter an indistinct answer. In the morning she was perfectly unconscious of her midnight ramble, and only complained of slight headache, but not enough to interfere with her daily occupations.

It is difficult to explain these extraordinary occurrences satisfactorily or pathologically.

The functions of the brain and medulla spinalis are separate—sleep is undoubtedly an affection of the brain;—and, where the brain is *much* oppressed, constituting *Coma*, its functions are entirely suspended—in sleep only partially so. Yet the spinal functions continue in office; and though, in a protracted state of coma, not only they would shortly be suspended, but life itself, they are so little affected during sleep that the voluntary muscles have a liberty of action; and somnambulism is equally a result and a proof of this. When the functions of the brain are *entirely* rested, and sleep, exempt from visionary interludes, is dispelled by Nature being restored, it is then, perhaps, that the intellect is most clear, the judgment most perfect, the perception most acute, the sensibilities most refined. Thus, "The first moment of waking has been defined—that moment of horror to the unhappy when, amidst returning perceptions, increased in acuteness by the refreshment of repose, a sense of misery suddenly darts its sting into the heart, and renews with tenfold vigour its suspended anguish." This is the time when so many victims of mental emotion rush headlong into eternity; and, could many of those unhappy beings who have been found dead in the morning be restored, I have no doubt that they would substantiate my conviction. They try to sleep again, but they invoke the drowsy god in vain:

"He, like the world, his ready visit pays
Where fortune smiles: the wretched he forsakes;
Swift on his downy pinion flies from woe,
And lights on lids unsullied with a tear."

Could they but sleep again—could sleep but be induced by narcotics—their melancholy exit had been averted; but, aroused by Nature from that sweet oblivion in which all their cares and troubles were just now shrouded and at rest, the sad reality of their condition is more acutely felt than when mingling with those who carry on the world, and whilst they were comparatively abstracted from themselves by the passing objects around them. The intensity of feeling predominates over every other consideration in that solitary hour, and, getting an unfortunate ascendancy over their better judgment, precipitates them into the abyss which alone appears to promise them a refuge from all sublunary difficulties and anxieties. "In some people (observes Dr. Burrows), the more soundly they sleep, when they awake, have all their hallucinations more vivid, and resume all their violence." That the ganglionic system is distinct from the brain is further demonstrable by experiment; for convulsions of the most violent character occur after decapitation, and can be called into action by galvanism long after the manifestations of life have ceased. Again, the spinal functions may be entirely arrested, as in paraplegia, and yet the operations of the brain remain unaffected. For example, I was requested to see a man in my neighbourhood who had fallen from a tree on his back, and fractured the dorsal vertebræ. Entire anæsthesia of the lower extremities ensued, as well as all possibility of moving them; yet his intellect remained unimpaired till a few hours before his death, which did not occur till six weeks after the accident. Many such cases are recorded. All these effects—the classification of nerves, their distinct offices or functions, together with their pathology—are most lucidly expounded in Dr. Marshall Hall's Lectures on the Nervous System; but, as this subject is independent of the operation of *mind* on matter, it may be somewhat irrelevant to enlarge on it on this occasion. Where *mental* shocks are productive of spasmodic affections (of the which they are a fertile source), it is through the action of the brain on the excito-motory nerves. A paroxysm of epilepsy induced by mental excitement is strongly illustrative of this: and sudden alarm or a burst of anger is a most frequent cause. "Parmi les causes excitantes de l'epilepsie la frayeur tient tout à coup sur le premier rang. La colère, et un chagrin profond, paraissent (après la frayeur) tenir le premier rang parmi les causes de l'epilepsie." It is produced by depressing as well as by exciting passions. When there is a predisposition to epilepsy, a cause of either kind, be it productive of excessive or of defective action, may interrupt the equable transmission of the sensorial power, and thus occasion a fit: and hence it is desirable to retain every patient, who is subject to epilepsy, in a state equally distant from plethora as from undue emptiness of the cerebral vessels. In epilepsy both the cerebral and spinal systems are equally affected, as is demonstrated by the temporary stupor and insensibility in combination with the violent convulsions of the whole frame. The frequent occurrence of an epileptic fit during sleep evinces that it is referrible to venous congestion in the brain; and the termination of the fit in stupor and headache, in addition to the effusion of serum, and other morbid appearances, consequent on repeated attacks, proves how deeply the brain is implicated in this distressing disease. The intellectual powers also become impaired, and frequently terminate in idiocy or insanity, dependent on serious organic lesions within the cranium. In other cases no abnormal appearance is discernible. "Sed et fessi fuerunt summi in arte viri atque in rebus anatomicis peritissimi (to use the words of Van Swieten), quod in cadaveribus hoc morbo defunctorum nihil invenerint sæpè quod culpare poterant." The pathology of this disease is unquestionably involved in much obscurity.

Now, connected with or consequent on epilepsy, it is not uncommon to find apoplexy or palsy. My learned predecessor in this rostrum, Dr. Marshall Hall, classed them, in fact, under one bracket, and supported the theory with his well-known ingenuity and talent. He says:—"The patient affected with paroxysmal apoplexy sometimes becomes epileptic; the epileptic, on the other hand, sometimes experiences attacks which gradually assume the more apoplectic character. The fits of apoplexy usually terminate in an apoplectic stupor, and this sometimes in mania." Sudden emotions (as I stated in the early part of my lecture) have very frequently given rise to apoplexy, owing to the highly increased arterial action, and the venous compression attendant on it, of which numerous instances are given in Aretæus, Portal, Cheyne, and other authors; and, as both these states occur in an epileptic fit, an apoplectic or paralytic seizure may naturally be expected. Paralysis, according to my repeated observation, is more frequently connected with the depressing passions—such as distress of mind from losses, sorrow, frustrated speculations, and other sources of anxiety and disappointment. The nervous energy which had previously subsisted, and carried the projectors through much mental and bodily fatigue, producing increased determination to the brain, with congestion of the sinuses and veins, is succeeded by *exhaustion* of organic nervous power, giving birth, in persons of a gouty diathesis, to an attack of gout—in others, of mature age (and in whom the circulation through the brain is liable to physical imperfection), to a rupture of the minute blood-vessels, and consequent effusion into some part of the encephalon. The result of such effusion manifests itself variously, according to the seat or to the extent of the lesion that has occurred. It may have occurred in the base of the brain, or in the spinal column, as well as in the meninges or substance of the brain itself. If the effusion in the brain be slight, absorption may take place, attended with entire recovery; or the effusion may increase, and be followed by extension and aggravation of the paralysis, and ultimately by death. But there *can* be *no* doubt that both apoplexy and paralysis are occurring almost daily from intellectual disturbance, and consequent on a deficiency of the due equilibrium of the nervous and vascular systems. Amongst the multitudinous minor instances adducible, another striking instance of the effect of the mind is displayed in the change of the colour of the hair, which becomes rapidly grey, or falls off, under the influence of anxiety and grief. The late chaplain of Newgate told me that he has been astonished at the rapidity with which dark brown or black hair, in young subjects who have fretted after their commitment, has been bleached. A lady of my acquaintance, who experienced great unkindness from her husband soon after marriage, lost every hair, not only from the scalp, but the eyebrows and eye-lashes came off; and her skull, in a few weeks, was as smooth and polished as a billiard-ball.

Other instances of the extraordinary operations of the mind present themselves in the metamorphoses of the Fœtus in Utero, as is well known, and are highly authenticated; and, moreover, powerfully illustrative of the subject of my lecture—in the dispersion of warts by what is termed charming them—the suspension of an ague-fit by impressing the patient's mind with the conviction that it will not recur (be the instrument what it may)—the removal of disease by pretending to a miraculous agency—of the toothache, by invoking the presence of the dentist, &c. &c.

I will now take a cursory view, however, of the effects of one or two of the passions.—I have just observed that Fear, or rather sudden fright, is a frequent exciting cause of epilepsy. Its immediate operation is to paralyse the body, and is therefore precisely opposite to the influence of Rage or violent anger. The respiratory nerves are instantly affected, causing embarrassment in breathing, and accelerated action of the heart, attended with diminution of its momentum, and retardation of the returning venous blood; thus giving rise to the pallor so notoriously characteristic of the passion. There is a temporary congestion, consequently, in the heart and lungs, and exhaustion of nervous power to such an extent that the limbs totter and shake, and scarcely a muscle but participates in the asthenia; sometimes (as I have already observed) the exhaustion of the Vis nervosa at once annihilating existence. It is a fertile source also of insanity, as well as of nervous disease. I was consulted a few weeks since in the case of a young lady who was affected with partial hemiplegia and chorea, from being frightened by a crazy man, who forced himself into the house after dark, but she soon recovered. There is a case of fatuity at this time at High Beach, in one of the asylums which I visit, owing to the patient being frightened at school by a mock trial of him for stealing a knife from one of his schoolfellows: they pretended that they were going to hang him: he escaped, and hid himself for some hours in a ditch, where he was found idiotic. Numberless similar instances might be adduced, resulting from fancied apparitions, or other causes of terror and surprise.

Look, again, at the consequences of *Grief* on the animal system. We have mentioned one of these in the beginning of my lecture—viz., Carcinoma: and many more sad consequences might be enumerated.

It tends, when inordinate, to determination of blood to the brain: it is a not unfrequent cause of insanity; and would be still more so, did not Nature proffer the relief of tears. The countenance at once betrays it: the *depressor anguli oris* is of itself so characteristic of mental sorrow that the artist can instantly pourtray it, and change the representation of laughter into that of weeping by a mere stroke of his pencil, calling that muscle into play. The common phrase of being "down in the mouth" no doubt takes its origin from the action of this muscle. General languor, moreover, prevails; for the exhaustion of nervous energy which follows fast on the agitation and restlessness of sorrow depresses the whole frame, and leaves it in a state of lassitude and inertia. A general stupefaction of the intellect mostly ensues, all the vivid perceptions which might previously have reigned being absorbed or concentrated in the predominant affliction. The expression of countenance is painfully interesting, and his must be a flinty heart in which a feeling of commiseration and sympathy is not excited on witnessing it. All the harsher emotions of the countenance are lost and melted down; and woman is said to be more radiant through the mist of sorrow—

> "So properly the object of affliction,
> That heav'n is pleased to make distress become her,
> And dresses her most amiably in tears."

That the heart may become structurally affected by the continuance of grief may be asserted with little fear of contradiction; or little faith can be reposed in the writings of Corvisart and others, who have studied its pathology with attention. What is the simple and constant concomitant act of sighing but the comparative inertness of the heart's action, and the consequent impulse of congested lungs to

> "Cleanse the fraught bosom of that perilous stuff
> That weighs upon the heart."

Sir Charles Bell has beautifully described all the minutiæ, and explained them admirably, in his "Anatomy of Expression,"—a work which merits a place in every library of science and interest, malgrè a few little errors of opinion. He carries on his illustration even in the brute creation, and demonstrates by close analogy that though they have not, strictly speaking, *reason* for their guide, they have instinct,—nerves, and feelings, and emotions, and passions, in common with ourselves, and so verifies the poet's humiliating assertion, that

> "Man differs more from man than man from beast."

The opposite excitement—viz., that of intense *Joy*—has also a most powerful effect on the system, and is, perhaps, more to be dreaded in its consequences of the two. This has been abundantly witnessed from the sudden and unexpected supervention of great wealth on nipping poverty; and insanity, and even death, have been a not unfrequent consequence; for the mind is elastic, and gradually rises from the weight of sorrow that depressed it: but when the load of embarrassment, and anxiety, and distress, is suddenly removed, and a superabundant influx of nervous excitement is as suddenly infused, the specific gravity of reason is thrown as it were from the mind's centre, and never able to regain her seat. It is an overcharge of animal electricity, and an explosion follows, the illumination and destruction being simultaneous. Instances of its fatal property are recorded and familiar. Pliny asserts positively that the joy of having won the prize in tragedy put an end to the days of Sophocles, and also of Dionysius of Sicily. He also gives the example of the Roman lady who died for joy to see her son safe returned from the battle of Cannæ. Another instance presents in the old Greek who died on the spot from excess of joy on seeing his three sons crowned with laurel at the Olympic games. The pathology is only explicable on the principle of nervous excitement already specified,—in other words, a shock of animal electricity; for no *structural* disease could be detected by post-mortem inspection under such circumstances. We can only say that the equilibrium of the nervous and vascular systems has been disturbed to a degree incompatible with the laws of existence, and death is the result!

All other emotions and passions are, in fact, only modifications of the influence of the mind on the material organization already described; and it may be difficult to penetrate more deeply into "*cet abyme des incertitudes*" than has been done by those whose names I have quoted, and by other physiologists whose reputation is immortalized by their researches in this interesting branch of medical philosophy, and is identified with it. It cannot be denied that the functions of the brain and nerves—the reflex action of the latter—the respective peculiarities of the sentient and motor nerves—the distinctions between involuntary muscles and muscles of volition—the ganglionic system—the separate offices of the brain and spinal marrow, and all their individual and combined operations and uses, have been most minutely studied, and most assiduously investigated, and partly ascertained, within the last few years, not only by those on whom the grave has closed, but by several who still live to enjoy the *Superbiam quæsitam meritis*. Should the latter have retired from the field of philosophy to enter it no more, the laurel still is green upon their brow; and, with this encouragement, let us hope that, though the subject is intricate, and the barrier apparently insurmountable, others may not be deterred from prosecuting the inquiry, remembering that

> "The wise and active conquer difficulties
> By daring to oppose them."

In fact, the subject merits even more attention than it has hitherto received; for, however valuable the pathological observations may ultimately be, the inferences which have been drawn from the experiments which have been instituted are nevertheless so incomplete and perplexed, that farther research, and the "*longioris ævi diligentia*," are requisite to verify them. The nature and exact functions of the ganglia—that prime minister of organic life; the sympathetic nerve, with its various connections and offices; the endowments and relations of the medullary and cineritious constituents of the brain and nerves; the unity of the nervous power; the vital principle itself, and its connection with material organization;—in a word, the *terra incognita*, which at present forms the extreme boundary of human knowledge, is still involved in an obscure mist and mystery which affords ample space for our consideration and study.

If Vivisection be indispensable to the further prosecution of physiological inquiry, and physiology stagnates because humanity shudders and shrinks from the infliction of pain, it is gratifying to feel that her handmaid, Chloroform, is come amongst us as though to obviate the leading objection to experiment, and beckon us to farther scientific investigation. Her supreme power over the entire nervous system may ere long open the portal to information which as yet has been closed against us, whilst her anæsthetic agency must rank high amongst the most valuable of modern medical blessings and discoveries. The extended action of it, and of other powerful anæsthetic and stimulant medicines on the nervous system, is a subject well worthy of especial study. It has burst in upon us lately with a dazzling effulgency, although it must at present be considered in comparative infancy. As we employ it more generally, and become better acquainted with it, many advantages may be anticipated from this class of remedy, especially in mental and nervous affections. We all know or have witnessed the operation of the Nitrous Oxyde on the nervous system; the astonishing influence of Mesmerism; the anæsthetic effect of the inhalation of Æther; the operation of Aconite and other narcotics,—the effects of all of which on the brain and spinal marrow are strongly illustrative of the antithesis of my subject—viz., the action of *matter on mind:* and here, amongst the first and foremost, must be classed the maddening fascination and mental bewilderments consequent on Opium and the preparations of it,—that Nepenthe of both mental and corporeal suffering and inquietude,—"sine quo," as Celsus observes, "medicina quasi manca sit, ac claudicet!" How many a painful paroxysm of agony does it not avert! How many a night of ease and tranquillity does it not procure, which, but for "this sweet oblivious antidote," were spent in suffering and restlessness! Who can forget the poetry and pathos with which its Elysian properties have been depicted by De Quincy in his "Confessions!" Yet who would not shrink from the Circæan cup, or dash it to the earth, rather than be similarly enslaved by its intoxications! Under its powerful influence the nervous system is variously affected in different individuals. Perception is confused; ideality is excited; memory is blunted, or is, perhaps, extraordinarily augmented; visions arise which are confounded with realities; and the mind becomes entangled and intoxicated by it! It begins by exciting, but terminates by stupefying the brain, inducing coma and death: but its action on the mind through its material organization is a striking illustration of the dependence on, and the connection of, the one with the other. The sublimities of genius are, indeed, not unfrequently invoked and elicited by these mental stimulants, which excite the brain, though at the expense of the stomach. Many of the fine pictorial productions of Fuseli are said to have been the children of indigestion and irritated brain,—nay, it is asserted that he ate freely at supper of whatever was calculated to cause dyspepsia and night-mare, for this express purpose.

The effects of all the narcotic poisons on the animal organismus are very analogous; some are more rapid in their effects than others, as Prussic Acid; some are attended by convulsions; some dilate, whilst others contract the pupil of the eye. The principal symptoms are cephalalgia, vertigo, affection of the retina, with paralysis, convulsive stupor, and death; but no morbid lesions are discernible from narcotic poisons, unless we include venous congestion or serous effusion in the encephalon. The general impression is, that they either operate on the brain through the circulating system, or, as others maintain, their operation is on the centre of the nervous system, and its sympathy with those expansions of it on which the morbific impressions are made; and the instantaneous death consequent on a large dose of Prussic Acid favours this theory.

The action of stimulants is to awaken the susceptibility to impressions, to pour fresh oil into the lamp of exhausted nature, to sharpen the intellectual energy, and to dissipate sorrow and anxiety. "Give strong drink unto him that is ready to perish, and wine unto those that be of heavy hearts. Let him drink and forget his poverty, and remember his misery no more,"—said Solomon.

Profane authors teem with such encomiums. Many a passage might be cited from scores of classic authors in support of the exhilarating and creative influence of Wine. Some of our most celebrated statesmen would not attempt to speak, until they had aroused their powers of eloquence by stimulant potations; and Horace asks—

"Fecundi calices, quem non fecere disertum?"

Energy is therefore the first impression that is made by Alcohol as well as by Opium. The mental function acts with unwonted power; wit is awakened—and fancy and imagination being aroused, and luxuriating with unfettered vigour, the poet and the orator pour forth their sublimest strains, and give utterance to their grandest conceptions. If, however, the stimulus exceed the due proportion, and reason is floated from her capitol, the ideas become confused and incoherent, the powers of the mind are swamped, vertigo follows, bringing exhaustion in its train, and a φευδο apoplexy finishes the scene. Where a copious potation has been suddenly made, not only the mucous membrane of the stomach is inflamed and injured, as Dr. Roupell has ably depicted to us in his treatise, and illustrated with coloured plates, but the shock sustained by the nerves is communicated to the brain, and a fatal result ensues before time for absorption can take place. From smaller proportions, daily and constantly repeated, we have palsy, dyspepsia, mania, delirium tremens, debility, and every indication of the intellect—the brain, and whole nervous system, being shattered and destroyed—and our gaols are crowded, our madhouses are stocked, and our churchyards filled, by the victims of this pernicious and demoralising vice. Without, however, digressing into a treatise on alcohol and its effects, suffice it to say, that the *Vis nervosa* and powers of the mind are salubriously augmented or perniciously impaired by its action on the brain, according to circumstances:—and in alluding to the articles which I have just enumerated, I feel that I have adduced the strongest illustrations with which we are acquainted, of the instrumental agency of *Matter on the Mind*. This it is which renders the study of the operations of stimulants and of narcotics particularly incumbent on those who devote their time and attention to the treatment of insanity: for the condition of insane patients is very various. Wine, which in a state of health induces a temporary delirium, will, on the other hand, mitigate or suspend the low muttering delirium of typhoid fevers, where it arises from depressed vitality. The same observation applies to opium. How frequently this is demonstrated in the calmness and rationality with which patients awake, where Morphia has been given in such proportion as to induce sleep under such circumstances! and though of course insanity is not to be confounded with delirium, yet how valuable is the effect of morphia, and of henbane at times, in every lunatic asylum, as well as in the fever hospital! My friend Dr. Seymour asserts the acetate of morphia to be more efficacious in that melancholy stage in which Suicide is to be apprehended, than any mode of treatment which can be adopted; and I fully coincide in such opinion in many instances. It is equally so in puerperal insanity, and in other forms of mental alienation attended with irritation and debility. How strikingly this is evidenced in the Delirium à potu, or "tremens" as it is generally termed. Where, from nervous exhaustion, therefore, the nerve matter, whatever it may be, no longer exercises its function as a medium through which the mind exercises volition or perceives impression, morphia would appear to impart a new mode of consciousness. It suspends the exhaustion which causes the disorder of the sensorium in Typhus, and refreshment follows the repose that is induced by it—In a word, the alternations of mental action correspond with states of bodily excitement and exhaustion; but the cause of any deviation from the normal condition of either mind or body must be ascertained before the appropriate remedy can be prescribed, inasmuch as cerebral excitement in an opposite condition would be aggravated by opium or stimulants.

Inequality in the distribution of blood to the brain invariably affects the intellectual functions, be the cause what it may. This is evident in the simple act of fainting (in which all consciousness, perception, volition, and other properties, are suspended for a time), as much as in congestion of the brain. Fainting is, in fact, a vivid instance of the subjugation of the body to mental emotion, for it is a suspension of the heart's action, consequent on a sudden impression on the mind. This theory is, however, opposed by that eminent physiologist Bichat, who asserts that the brain has no immediate influence upon the heart. His opinion was, that the passions and mental emotions are to be referred primarily to the heart, and not to the cerebral system; and in analysing the pathology of syncope he contended that the suspension of the heart's action was in all cases the *primary* circumstance; that of respiration, sensation, and voluntary motion, being only *secondary*. Great as may be the presumption to differ from so celebrated a physiologist, it is difficult to concur in this opinion; for where it occurs in persons of delicate susceptibility on the sight of a toad, or a spider, or blood, or any other offensive object of sight (as so frequently occurs), it is surely an impression on the brain through the medium of the optic nerve, and communicated *secondarily* to the heart and circulating system. Where syncope is consequent on sudden loss of blood, on the heat of crowded apartments, on the use of the hot bath, on long standing, and other physical derivatives of blood from the brain, this theory is admissible; but that it is *also* produced by the agency of the mind appears undeniable, and the etymology of "leipothymia," or "animi deliquium," is accordingly given to it. Since, however, it cannot be denied that Syncope is by no means an unfrequent consequence of FATIGUE,—and inasmuch as I should deeply regret to find myself a remote or proximate cause of such an occurrence in this room by trespassing at *too great* a length on your attention,—I will here close my lecture.

Reviews.

1. *Ueber wahre and eingebildete Saamenverluste zur Berichtigung verbreiter Irrthümer und zum Troste vieler Hypochonder.* Von Dr. P. PICKFORD, Praktischen Arzte und Privatdocenten an den Universität Heidelberg.

On True and False Spermatorrhœa. with a View to the correction of a wide-spread error, and the Consolation of many Hypochondriacs. Pamphlet, 8vo. pp. 79. Heidelberg: Bangel and Schmidt. 1851.

2 *On the Causes, Symptoms, and Treatment of Spermatorrhœa.* By M. LALLEMAND. Translated and edited by HENRY J. M'DOUGALL, formerly House-Surgeon to University College Hospital. Second edition. 8vo. pp. 411. London: Churchill. 1851.

DR, PICKFORD is known to English readers by his frequent practical contributions to German medical literature. This is the first time, he informs us, that he has addressed himself to the non-medical reader. We trust this may not be the last, if he shall detect any other equally flagrant evil which it may be in his power to correct: the present publication we consider to be justified by its object.

Professional men of integrity and high principle are too often disgusted and shamed at the undue importance which, from mercenary motives, is attached to occurrences in themselves of little or no moment. Of these the subject of this pamphlet offers an example.

A slight occasional nocturnal emission of semen—a natural occurrence—is often from unworthy motives represented in distorted and exaggerated language, until it appears to be an event of serious import. Nothing less than ultimate ruin to the constitution is sometimes predicted; the fears of the complainant are excited, his thoughts are constantly directed to this one topic, the greatest alarm for his fate is aroused; he consults a certain class of books which only aggravate his groundless apprehensions, or, as they are written for sinister purposes, direct him to some unscrupulous practitioner, who empties his purse, and renders him wretched in mind. This is not an uncommon occurrence; cases of the kind are frequently met with; and distressing cases truly they are. As Dr. Pickford observes, there is no form of hypochondriasis so serious, or which so thoroughly embitters life, as that which has its dark and melancholy foundation in supposed disorder of the sexual system. It is to rescue the unhappy sufferer from the hands of charlatans that the author addresses to them the exposition of the subject contained in his pamphlet.

Dr. Pickford points out the origin of the occurrence in mere vascular fulness —or as a consequence of onanism. He quotes from Hufeland the description of a person suffering from spermatorrhœa, with a catalogue of the horrors which loss of all the bodily powers and mental energies may be supposed to entail, ending in premature death. Odious as is the vice, and prejudicial as must be its effects, we concur with Dr. Pickford in considering the picture as too highly coloured, and the evils as over drawn. There would be no objection, however, to letting this picture stand as it is, if the same consequences had not been attributed to the simple spermatorrhœa which occurs often independently of the practice, and often after the habit has been abandoned. This exaggeration of truth is not justifiable on any plea. To work upon the imagination to the extent of giving it an undue operation over the judgment, is the resort of impostors—the means by which quackeries and "systems" obtain their victims.

Dr. Pickford well remarks, it would be a good day for mankind, almost as great a day as that of the introduction of vaccination, if an auto-da-fè could be celebrated upon all popular medical writings of this description.

Dr. Pickford points out, that involuntary seminal discharges may occur in the healthy, and in the enfeebled by disease, or as a consequence of the disease, and be of no further importance; or they may be the cause of general ill health.

The author enforces the truth that a medical man alone can distinguish the cases calling for medical assistance.

This pamphlet contains a brief historical sketch of the literature of the subject. It will, we doubt not, render good service by removing imaginary fears, and thus rescuing their victims from the mournful catalogue of evils and impositions so often induced by groundless terrors, excited for mercenary purposes.

2. M. Lallemand's work has now been some time known to British readers by Mr. M'Dougall's former translation. The fact of a second edition being called for within a few years (the first edition was published in 1847,) is a sufficient proof that the translator did not labour in vain, when endeavouring to draw attention to a form of disease which had previously been much overlooked by the profession. The attention of medical men has by its means been drawn to the nature and origin of many obscure derangements of the nervous system. Treatment has been thus guided by correct indications, and many who seemed doomed to be the victims of incurable nervous maladies, have undoubtedly, by simple means, been restored from the misery of despondency and melancholy, to the cheerful enjoyment of restored health and the full powers of virility.

It is perhaps not necessary that we should occupy much space by an analysis of a work now familiar to a large proportion of our readers. We simply notice that the book before us consists of sixteen chapters; of which the first two consist of an historical notice, and an introduction, the second is occupied with the subject of inflammation of the spermatic organs, the succeeding eight are occupied with the causes of spermatorrhœa, the next two are engaged upon its symptoms, and the remainder expound its treatment. These several points are profusely illustrated by cases: (in this part of the work a little further condensation or pruning might probably have been no great disadvantage.) We consider the chapter upon "abuse," as a cause of this malady, to be one deserving of especial attention, upon the parts of parents and all concerned in the charge or education of children; medical men will only be performing their duty, and discharging a moral obligation, by directing the watchful eye of parental care to the evils therein discussed.

Making some little allowance for the fondness of every man for his own productions, and which leads him to fix his regard too much in one direction, we must accord to this work the merit of having rendered essential service to pathology. If the author and his translator ride their hobby a little fast, they are not likely to do harm by passing over without notice a very formidable obstacle to the physician's efforts, while the very importance they may give to their own opinions will, at all events, frequently lead them to a correct diagnosis, if in an obscure case there can be detected no fault or morbid condition of the generative organs.

Mr. M'Dougall has given a very excellent translation of this work, which he has brought before British practitioners with the intention of rescuing suffering humanity from the clutches of charlatanism, and of pointing out to the professional man a class of cases which mistaken delicacy should not permit him to leave unheeded, since they are truly the legitimate objects of his skill and care.

Ninth Report of the Secretaries and Treasurer of the Birmingham and Midland Counties Pathological Society, presented at the Annual Meeting, Jan. 2, 1851. Pamphlet, 8vo. pp. 44. Birmingham. 1851.

THIS publication consists simply of a

report of the morbid specimens presented at the several meetings of the Society during the year 1850, arranged with reference to the diseased organ to which the greatest prominence was given in the history of the case,—*e g.*, the nervous, circulatory and respiratory, digestive and urinary, and generative systems, injuries and diseases of bones, malignant disease. This pamphlet shows the members of the Association to be industrious cultivators of pathological science.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Dr. Latham, President.

May 6, 1851.

Mr. Avery exhibited a specimen of

Polypus of the Ear, Caries of the Petrous Portion of the Temporal Bone, and Abscess of the Cerebellum,

from a man, æt. 35, who had suffered for some years from frequent ear-ache, often of a severe character, and accompanied with discharge. During the last five weeks he was under the observation of Mr. Yearsley; at the commencement of that period Mr. Yearsley removed a large polypus from the external meatus. This was followed by some relief; he soon after, however, complained of very great pain at the back of the head, on the right side, and down the neck and shoulder, of a plunging and intermittent character.

These pains were treated at first as neuralgic; but they increased in severity and frequency, and rest could only be obtained by oft repeated doses of laudanum. He appeared generally to be dull, heavy, stupid, and incapable of making any exertion. He several times remarked that people must have thought him intoxicated when in the street, as his gait was so very unsteady that he was often obliged to lay hold of the rails to prevent himself falling. He ultimately became comatose, and died.

The brain was found to fill the cranial cavity, and the convolutions were very closely pressed together. The arachnoid membrane was uncommonly dry; the lateral ventricles contained a very considerable quantity of very clear limpid fluid, and the fornix and septum lucidum were very white and soft. On separating the cerebellum from the petrous portion of the temporal bone, a gush of thick creamy pus took place, and an abscess was found occupying a cavity in the right lobe, large enough to hold a pigeon's egg. The contents of this cavity were very fœtid, and the walls were firm and lined with false membrane, and were thin at the point where the cerebellum rested on the aquæductus vestibuli of the temporal bone. At this spot there was a small ulcerated opening in the dura mater, communicating with a carious portion of temporal bone, and it was here that the disease had been continued to the cerebellum. There was no loose lymph in the cavity of the arachnoid, and only a thin film covering it near the ulcerated opening in the dura mater.

The unsteadiness of his gait, in connexion with the abscess in the cerebellum, was very remarkable; but it could not be ascertained, on repeated inquiry, that the want of power over the co-ordination of his movements affected one side of the body more than the other.

Mr. Toynbee examined the temporal bone, and reports that the disease appears to have been at its commencement chronic catarrhal inflammation of the dermoid meatus. After some time a polypus seems to have been developed from that part of the dermoid membrane which is adjacent to the membrana tympani, and which covers the posterior part of the osseous tube: this polypus was evidently the source of much irritation to the membrana tympani, which is very much thickened; it presents an orifice at its anterior part, and has two small polypi attached to its superior and inner part. Upon separating the membranous from the osseous meatus, the latter, near to the membrana tympani, was darker and rougher than natural, and it had evidently been subject to inflammation, which had penetrated into the mastoid cells, and thence to the sulcus lateralis which bounded them internally. The upper part of the sulcus lateralis was carious over a space about three lines in diameter, and there were orifices which were filled by coagulated fibrine. The dura mater covering the sulcus lateralis was softened, but the disease had not penetrated to the cavity of the lateral sinus. The dura mater adjacent to the fossa jugularis was soft and partially destroyed by ulceration; the bone beneath it was found to be carious, and to form part of the posterior wall of the inner extremity of the mastoid cells. It will thus be observed how disease of the mastoid cells may be propagated to the jugular vein without the intervention of the lateral sinus.

Mr. William Adams exhibited a specimen of

Ossifying Enchondromatous Tumor of the Lungs,

from the body of a man, æt. 66, who died in St. Thomas's Hospital, from the effects of extensive injuries. From the centre of the surface of the upper lobe of the left lung an irregular oval nodulated cartilaginous growth projected, three-fourths of an inch in its long diameter, which was perpendicular to the surface of the lung, and half an inch transversely. Externally it presented generally a white mottled appearance, but some of the smaller lobes were of a blood-red tinge; the pleura was traceable over its surface, to which it was but loosely connected; its base was imbedded in the pulmonary structure, with which it was rather firmly connected; the pulmonary tissue dipping into the interlobular interstices of the tumor. The tumor was connected much more firmly with the pulmonary structure than with the pleura. On section it presented the ordinary appearances of enchondromatous growths in process of ossification, the cartilaginous basis being studded with small irregular nodulated masses of bone; the osseous matter being more dense than usual. The cartilaginous matrix was studded with nucleated cells of a large size, and of a spherical or oval form, varying from $\frac{1}{700}$ to $\frac{1}{1000}$ of an inch in diameter: the nuclei were generally granular, but some were perfectly clear: opaque granular matter, probably earthy salt, existed in many of them between the nucleus and the cell wall, and in many instances was collected in an irregular mass immediately external to the cell wall, which it more or less surrounded. The cells were in some places grouped in masses, between which the cartilage presented a slightly fibrillated appearance: this grouping was very imperfect and indistinct; the cells were generally scattered irregularly through the structure. There were also numerous irregular bodies of an opaque granular appearance, of about $\frac{1}{1800}$ or $\frac{1}{2000}$ of an inch in diameter: whether these had cell walls was not satisfactorily determined. Near to the margin of the osseous matter the cells were dark, and sometimes almost opaque, with a comparatively clear zone round the nucleus, which was itself dark, or opaque and granular; the space between the nucleus and the cell wall was filled with granular matter, the density of which increased from the centre towards the circumference. This appearance was most distinct in the cells close to the margin of the bone, and in some instances these cells were seen to be imbedded in the edge of the bone.

The intercellular cartilage was generally clear and perfectly translucent, in some parts only presenting faint indications of fibres: near the margin of the bone it seemed in many points to be studded with masses of osseous granules, extending from the bony nodules irregularly into its substance, so that ossification appeared to be taking place partly by the accumulation of osseous granules in the cells, and partly by the infiltration of the intercellular cartilage with osseous granules. A section of one of the osseous nodules exhibited numerous lacunæ, very irregular in size, but generally round or oval, and destitute of canaliculi, scattered without arrangement through the earthy matrix. The lacunæ in this portion corresponded closely with the cells in the cartilage, and the only difference appeared to be the matrix in which they were imbedded, and the absence of nuclei in the lacunæ: at the edge some of the nuclei appeared still to exist in an imperfect condition. The general similarity of the lacunæ to the cartilage cells, especially when they were both seen together by the line of demarcation being brought into the centre of the field, seemed almost to warrant the conclusion of this identity. In the portion from which the first part of this description was taken, the cartilage cells near the edge of the bone were generally so much larger than the lacunæ, and the appearance of an accumulation of earthy salts within the cell wall so distinct, that the lacunæ were considered to be persistent nuclei of the cells, and not the cells themselves. In the nodule last examined the osseous matter also presented in parts an appearance of parallel and closely packed striæ, in one part intersecting each other at right angles: this appearance might be supposed to indicate a laminated arrangement of the osseous matter.

ACADEMY OF MEDICINE, PARIS.

May 13, 1851.

Strangulation of Intestine by the Cæcal Appendix.

M. Coze, Physician to the Civil Hospital at St. Omer, transmitted a note in which he reported the post-mortem appearances in a fatal case of this kind, occurring in a youth seventeen years of age. The abdomen was tympanitic; its integuments of a blackish hue. The intestines were dark-coloured, and distended with gas. A fold of the ileum had formed adhesion to the appendix cæci, and was gangrenous to the extent of about twenty or thirty inches.

The patient had suffered from peritonitis five years previously. The exciting cause of the strangulation was the having swallowed a quantity of cherries with their stones.

Death from the Misuse of Obstetric Forceps.

M. **Morderb**, of Mans, transmitted the particulars of a case in which the improper use of the forceps had produced extensive abscesses, sloughing of the vagina, and fracture of the ramus of the pubis.

Compression of the Abdominal Aorta in Uterine Hæmorrhage.

A **report** was read on M. Chally Honoré's essay on this subject. The author related several cases in which this practice had been followed most successfully.

M. **Delafond** read an essay on the choleraic epizootic among poultry.

SURGICAL SOCIETY, PARIS.

May 14, 1851.

Moveable Tumor situated in the Labium—Error in Diagnosis—Removal of the Tumor—Death of the Patient.

M. **Guersant**, to his honour, communicated the following case, which had occurred in his own practice:—

A young girl, eleven years of age, well-made, of a good constitution, enjoying excellent health, had, since one year old, suffered from a painless tumor of the labium, which had of late become so painful as to impede her walking. The tumor was of the size of a small nut, very moveable, and was situated near the inguinal ring, but could not be made to enter that canal, which was quite natural in its aspects. The tumor was compared to a testicle. M. Guersant, after a careful examination, arrived at the conclusion that it was a cyst; and he consented, at the desire of the parents, to remove the structure. A longitudinal incision was made with caution; a structure was exposed analogous to the tunica vaginalis; and through this transparent membrane a body could be perceived, which was no other than the ovary. A small elongated pedicle, extending from the inguinal canal, was formed by the tube. A ligature was placed around this, and it was divided anteriorly to the ligature. The ovary, thus removed, was somewhat enlarged, and its surface presented varicose veins. Peritonitis appeared on the following day, and the patient died at the end of four days. At the autopsy the peritoneum of the pelvis was found inflamed in its whole extent, and a peritoneal cul-de-sac was found in the inguinal canal with the tube that had been divided.

In the discussion which followed, several members suggested that the ovary should have been returned, the canal having been opened for that purpose.

Elimination of a Calculus through the Perineum.

M. **Maisonneuve** exhibited a calculus which he had removed under the following conditions:—When thirty years of age, the patient had been operated upon for stone by Antoine Dubois: the cure seemed to have been perfect during a period of thirty years, after which pains occurred in the perineum, and M. Michon was consulted. That surgeon discovered a calculus imbedded in the perineum: he made an incision, and easily removed the stone. The cure was rapid, and seemed also to have been permanent for four years, until recently he had returned to the hospital, and applied to M. Maisonneuve, with the request that he would remove a stone from his perineum. The calculus was discovered partly discharged through a fistulous opening in the integuments: it was seized with the forceps, and extracted without an incision. The patient, who is now upwards of sixty years of age, has perfectly recovered.

Extravasation of Blood behind the Uterus.

M. **Monod** presented a pathological specimen exhibiting an example of this extravasation. The patient had complained of extreme pain in the pelvic regions. M. Monod had at first thought that the case had been one of retroversion of the uterus; but on closer examination he discovered, behind the uterus, a voluminous tumor presenting fluctuation. A puncture was made, and gave exit to blood. The puncture was repeated, but the inflammation was not arrested, and the patient died. On the examination of the body a large quantity of blood was found collected behind the uterus.

M. **Nelaton** stated that he had several times observed these cases, and had drawn attention to them, under the name of retro-uterine hæmatoceles: the seat of the disease is behind the uterus, extending from the insertion of the vagina into the neck of the uterus upwards, without limit; in some cases filling both iliac fossæ, and reaching to the umbilicus. These tumors are only met with in menstruating women, and under various states of health; most usually where menstruation is difficult, and attended with pain. In one case it appeared upon a sudden suppression of the catamenia. Frequently these patients suffer also from hæmorrhage by the vagina. The course of the disease had been noted by M. Nelaton in seven cases. In one, a simple puncture was followed by complete cure. In the second a cure also followed after several serious accidents. In the third, which M.

Malgaigne had mistaken for a case of fibrous tumor, extensive incisions were made in the uterus, and the case ended fatally. The fourth and fifth were cured by incisions. In the sixth, the blood was discharged by the rectum, and the patient recovered. In the last instance, complete absorption of the blood had taken place. M. Nelaton observed that it was not possible to say whether the extravasation was within or external to the peritoneum.

ACADEMY OF SCIENCES, PARIS.

May 12, 1851.

Foreign Bodies in the Respiratory Passages.

M. **Jobert** (of Lamballe) read an essay, in which he submitted the following conclusions:—1. That foreign bodies exhibit a preference to lodge in the right lung, as the result of the direction and dimensions of the right bronchus. 2. They enter the air-tubes at the moment that the vocal chords are most widely separated, as when, in the forced inspiration of laughter, a column of air is forcibly drawn into the trachea. 3. They traverse the superior opening of the larynx without raising the epiglottis, which is never depressed upon the larynx, although such is usually asserted. 4. The epiglottis is always raised, by virtue of its elasticity. 5. The epiglottis serves to direct the course of certain fluids and solids during deglutition. 6. Foreign bodies traverse the air-tubes rapidly, according to the laws of their weight and size, and the force of the column of air. 7. They are only momentarily lodged in the direction of the length of the tube; that, in consequence of their mobility, they frequently change their position until, having excited inflammation, they contract adhesions. 8. That a foreign body arrested in a division or subdivision of a bronchus by being placed obliquely to its diameter, assumes the direction of the tubes, where it fills a normal orifice. 9. That foreign bodies interfere with the process of oxygenation, excite cough, and produce fixed pain at the seat of their impaction or adhesion. 10. That a peculiar sound is caused by their presence. 11. That the bronchial secretion is augmented. 12. That the lung on the opposite side to that in which the foreign body is lodged furnishes a louder respiratory murmur. 13. That emphysema is caused by their presence. 14. That foreign bodies that exceed in diameter the length of the glottis cannot be expelled by the efforts of nature. 15. That they have not been expelled from the trachea of man except when they are small. 16. That in dogs the position and size of the glottis admits their more ready expulsion. 17. That even in the dead body they have with difficulty been forced through the glottis, even by a strong column of air. 18. That in the living body they have not only this passive resistance to overcome, but the action also of the constrictor muscles of the larynx. 19. That there is, therefore, little prospect of the expulsion of small substances from the human larynx, and no hope thereof when they exceed a certain size. 20. That the operation of tracheotomy is indispensable in almost every case of the introduction of a foreign body into the air-passages, and that it is only in exceptional cases that the operation can be dispensed with. 21. That the operation ought to be had recourse to at an early period, in order to anticipate the local changes resulting from inflammation and the subsequent emphysema. 22. That this operation of opening the trachea is a delicate proceeding, and should be performed by the successive division of all the tissues, and not by the division with one excision of all, or nearly all, the soft parts, which incurs risk of hæmorrhage, of introduction of air into the veins, and of injury to the thyroid body. 23. That the trachea ought to be opened as freely as possible, in order that the foreign body may escape with facility. 24. That the opening into the trachea is known by the peculiar sound produced by the rush of air: the opening should be made where the trachea is nearest the surface. 25. When the substance is not at once expelled through the opening, the trachea should be stimulated by some soft body, so as to excite cough. 26. The opening should be very considerable if the substance in the trachea be likely to swell from moisture, and has been some time in the tube. 27-36. These last conclusions relate to the manner of healing the incisions.

Compression of the Abdominal Aorta in Uterine Hæmorrhage.

Dr. **Duhamel** communicated three cases of compression of the aorta at the sacro-vertebral junction, which he opposed to the operation of transfusion of blood. The first case was that of a woman, 30 years of age, whose life was nearly lost after a second labour, and in whom pressure on the aorta immediately arrested the hæmorrhage.

In the second case this measure was equally successful, although its adoption had been rendered somewhat difficult by the resistance of the abdominal muscles, which rendered it necessary to maintain the pressure for four or five hours.

The third case was one in which the patient had experienced repeated small losses for fifteen or twenty days, and on that account had been compelled to keep her bed and observe absolute rest. M. Duhamel having ascertained that the hæmorrhage was caused by an abnormal position of the placenta, proceeded to induce premature labour; but in an hour afterwards the hæmorrhage occurred to such an extent that the woman was exsanguine. Compression of the aorta instantly arrested the flow. The pressure was maintained for eight or nine hours, and it was thirty hours before pulsation returned in the radial arteries.

Hospital and Infirmary Reports.

HÔTEL DIEU.

Fatal Case of Acute Chorea during Pregnancy. Under the care of M. Louis.

All treatises on midwifery devote more or less space to the consideration of the disorders of innervation during pregnancy, among which are enumerated depravation of the appetite, vomiting, syncope, palpitation, &c., &c., but most of these works overlook chorea, a disease to which the pregnant state predisposes. Dr. Lever has pointed out that other disorders of the nervous system depend upon the pregnant state; such as convulsions, paralysis, mania. The same author has also observed, that these cases resist ordinary rational treatment while the pregnancy continues. In this opinion M. Sée, who has recently written a work on this subject, also concurs.

One question, however, has not been discussed by Dr. Lever, the solution of which nevertheless results from his conclusions,—*i. e.*, the influence exercised by the chorea upon the course of the pregnancy. Dr. Lever abstains from active treatment of these nervous affections, because he has not observed that they exert any injurious influence upon gestation. M. Sée views this question in the same manner. "Whatever may be the duration and intensity of the muscular movements," observes the last writer, "there is nothing to fear from their effects upon the uterus; chorea does not affect the visceral muscles, neither does it influence the uterine fibres; there is no more danger to the child than to the mother." These conclusions are just to a great extent, but they are a little too general, as shown by the report of the following case.

A young woman, twenty years of age, of a feeble constitution, light hair, pale complexion, and presenting the traces of strumous abscesses, was admitted in the sixth month of her second pregnancy. In consequence of a fright a month earlier, she had an attack of delirium. Eight days later choreic movements appeared. On admission into the hospital she presented constant involuntary motion of the extremities and of the eyelids, with embarrassment of speech. The functions generally were duly performed. Sulphate of zinc was administered. On the following morning she had a violent attack, in which she endeavoured to bite any one who was near her. The convulsive movements were most distressing. On the next day she was more calm. Pain in the bowels occurred. The head of the child could be felt low down in the pelvis. The os uteri was soft, but closed. Cold affusion, and leeching to the abdomen, were used. Opiates were also exhibited, but the disease was uninfluenced; and on the tenth day after admission she died comatose, after the expulsion of the fœtus by the uterus. The autopsy revealed nothing particular.

Thus, here was a young woman, twenty years of age, pregnant for the second time, succumbing to a choreic attack; despite treatment. This termination seemed probable, from the time that the disease resisted all sedative means. The abortion which only preceded death had been threatened during several days; the uterus having been firmly contracted upon and pressing down the fœtus, the pains having been severe and continuous from that period.

Correspondence.

MEDICAL ETHICS IN THE PROVINCES.

[We have received the following letter, addressed to the Secretary of the Wakefield Medical Society, in reference to a communication on this subject which was published in our number for May 16th.]

Sir,—Having had my attention drawn to a paragraph in the Lancet of May the 17th instant, I feel it necessary to place in your hands the following explanation, which will show that the Wakefield Medical Society have been grossly imposed on,—truth having been told *to a certain extent*, but not *the whole truth;* and thus it has been falsely made to appear that I acted in a discreditable manner. People who live in glass houses should mind how they throw stones.

The fact is, that it is I who have to complain of most "unprofessional conduct," and the "degrading offer of a qualified surgeon" residing in Horbury, and who is, I presume, a member of the Wakefield Medical Society—conduct which I had hitherto considered of too paltry and contemptible a character to fill the columns of a medical journal with an account of, and which conduct was the sole cause of my having written the letter for which I have incurred undue censure.

Mr. Kemp has been in practice in Horbury more than five years, while I have been here little more than five months. *I was applied to* by some of the members of the first club which fell vacant after I settled here, to become their medical officer, and I agreed to take it at *three shillings and sixpence* each per year, including sickness, accidents, &c.

I was also applied to by some of the members of a second club, which I offered to take on the same terms.

About a fortnight before the day on which the election of medical officer took place, I was waited on by one of the members of the second club referred to, to inform me that Mr. Kemp had sent in an offer to attend the members of that club at *two shillings and sixpence* each per year, including sickness, and all accidents except those requiring the assistance of another medical man, and that in the latter he would not charge any thing extra for his own time and trouble.

Here was a direct cut down of a shilling per member; and, on finding this, I immediately sent a letter to most of the clubs in the neighbourhood, offering to take them *on the same terms* as Mr. Kemp had offered, as my letter shows; and, in order to prevent, if possible, a continuance of this disreputable cutting down practice, I stated that, should the members receive any offers to attend them for less than two shillings and sixpence (which I was justified in concluding Mr. Kemp would offer to do, as he had already reduced prices), I stated that I would take them at sixpence per member less; but you will observe that this was only in case an offer was made *at less* than two shillings and sixpence.

Hitherto it has been, and I hope ever will be, my endeavour to support the dignity of a profession already far too badly remunerated; but, I may ask, when the elder practitioner in a place stoops to such conduct, and cuts down prices not only in clubs, but in private practice, how is the younger one to maintain them? I think it would be much better at once to prescribe gratuitously—a course which I shall most probably adopt, if I find the lowering price system is continued.

Let it be remembered, however, that at present, for the club to which I am medical officer, I have *three shillings and sixpence* each per year; whereas Mr. Kemp has one club, if not more, on similar conditions, *except that he has only two shillings and sixpence each per year*. Further than this, in the club which I attend, I am paid extra for journies above three miles distance; whereas, I am informed, Mr. Kemp has taken one club in which several of the members reside above three miles off, without any extra charge for that distance, because he has medical friends in the neighbourhood who will attend them for him.

It is evident that publishing my letter, in conjunction with other means which I have not condescended to notice, has been resorted to with the intention of misleading people, and of giving me annoyance if possible, though I can scarcely think that *all* the members of the Wakefield Medical Society have *consciously* made themselves tools in such a matter; but I feel assured that the *mens conscia recti* will always afford a secure shelter from such vile attacks; and that, though truth may for a short time be overclouded by falsehood, it will ultimately shine with greater lustre.

WILLIAM HENRY THORNTON,
M.B. LOND.

⁂ The defence is palpably a *tu quoque*. When an old practitioner in a place makes a tender of one shilling per patient less than a junior practitioner, what is the latter to do in order to support the dignity of the profession? According to Mr. Thornton, the most effectual and *dignified* course is to make an offer to take the patient at sixpence less than any other offer that may be made. Hence, in a sixpenny tender, the attendance would be gratuitous. To bring the question of dignity to an issue, we advise Mr. Kemp to tender at sixpence per patient!

THE COLLEGE FELLOWSHIP AND THE PROPOSED FEE OF TEN GUINEAS.

SIR,—In your leading article, May 9th, 1851, page 818, you have pretty fully entered into the merits of the Fellowship question, which appears to me very unlikely to be amicably settled.

You inform us that from two to three thousand gentlemen have been admitted Members of the College since the Charter of 1843, but that it is not intended that any member should take the fellowship without the payment of a fee of ten guineas; hence, you infer that somewhere about twenty-five thousand guineas would be added to the coffers of the College: this, doubtless, is a bold inference, and one not very likely to be realized. When King Henry VIII. granted a charter to the surgeons, and separated them from the barbers, no fee was demanded. When the Corporation of Surgeons were created a Royal College, by His Majesty King George III., in the year 1800, no fee was demanded. When Her Majesty Queen Victoria granted the Charter of 1843, three hundred members were elected to the fellowship without any fee. What plea, then, have the College Council for demanding a fee, on the present occasion, from members who, years before the charter was granted, had passed the requisite examination, received their diploma, or license to practise, and paid the customary fee? What security have we that it will end here? In another twelvemonth the College Council may think proper to petition Her Majesty to grant them another Charter, creating them Doctors of Surgery, and claim another ten or twenty guineas from Fellows desirous of obtaining the Doctorate; but they may rely upon it the present ten guinea scheme will not answer; it is too much like certain foreign Universities selling their diplomas for a few pounds. If the College of Surgeons are really in want of money, either for extending their premises, or enlarging and supporting their truly magnificent museum, let them plainly state the fact to their Fellows and Members, and I have no doubt but the appeal will be immediately and liberally responded to, either by donations or annual subscriptions.

I am, Sir,
Your very obedient servant,
G. H.

May 23d, 1851.

*** The statement, that from two thousand to three thousand gentlemen have been admitted members *since* 1843, was published in a contemporary journal. We do not vouch for its accuracy. Our worthy correspondent, whose diploma is dated long before 1843, does not, apparently, perceive that the College declines to admit to the fellowship, *without examination*, those who have become members subsequently to the Charter: hence it virtually declines to receive the sum of twenty-five thousand guineas. Members who become fellows by examination will of course pay the usual fees, but they will form only a small proportion of the whole number. With regard to old members paying the fee there is reasonable ground to question the equity of the proceeding, since it was not paid by the honorary fellows, and the present concessions to old members are in the light of a restitution. To make them pay a fee for the fellowship, unless all honorary fellows contribute the same amount, is something like the infliction of a fine. If persisted in, gentlemen will have to balance between the payment of ten guineas and the value of the title F.R.C.S. In this country all titles are paid for, and some require a very heavy payment: hence the extraordinary part of the proceeding is, not that the College should now demand it, but that it should have foregone the power of exacting a fee on the creation of the honorary fellows in 1843.

Medical Intelligence.

THE PREVENTION OF THE SALE OF ARSENIC BILL.

On the third reading of the Sale of Arsenic Regulation Bill, on Friday last,

Mr. Wakley suggested that the bill should be referred to a select committee. He thought it dangerous to allow a person who could not write or read writing to purchase arsenic, and, as for the two colouring matters mentioned in the bill, they might be got rid of in two minutes.

Mr. Stanford observed that in Prussia pounded charcoal mixed with arsenic was found effectual for the purpose in view.

Sir G. Grey trusted that the bill would be allowed to be now read a third time. It had been well considered in the House of Lords, and amendments adopted on the suggestion of competent persons.

The bill was then read a third time and passed.

DECREASE OF THE POPULATION OF PARIS.

It appears from the census lately taken in Paris and the department of the Seine that there is a considerable reduction in the population as compared with the census taken in the year 1846. At that period the population of Paris amounted to 1,053,897 individuals having a fixed residence. It is now reduced to less than 900,000 souls. The villages on the left bank of the Seine have sensibly declined, whilst Batignolles, Montmartre, Neuilly, la Chapelle, la Villette, Belville, and Bercy, on the right bank, have increased their population considerably.

CHEMICAL PROCESS FOR MAKING ARTIFICIAL GEMS.

At the last evening meeting of the Royal Institution, Mr. Faraday called the attention of the members to an ingenious chemical process discovered by M. Ebelmann, whereby gems can be produced from their natural constituents, and in perfect crystalline forms. The process consists in mixing the different materials in the proportions in which they are found to exist in the gem, and in employing pure boracic acid as the solvent. The mixture was then placed in the mouth of one of the Sévres porcelain furnaces, and the materials were melted, and dissolved in the boracic acid. By a long-continued application of the furnace-heat, the acid was slowly volatilized, the constituents became aggregated, and disposed in a crystalline arrangement. The corundum and ruby were thus produced from common pipe-clay, with the hardness and specific gravity peculiar to them. An emerald was reduced to powder, and completely reproduced in its original form and colour by the agency of boracic acid. M. Ebelman also succeeded in producing minerals not hitherto found in nature: among others, a well-crystallised specimen of bisilicate of magnesia.

RESOLUTIONS UNANIMOUSLY ADOPTED BY THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, REGARDING PRACTITIONERS OF HOMŒOPATHY.

AT Edinburgh, and within the College Hall there, the 9th day of May 1851, an Extraordinary Meeting of the Royal College was held, pursuant to a Resolution agreed to at the last Quarterly Meeting, and of which Extraordinary Meeting due notice was given. The PRESIDENT in the Chair.—The following Resolutions were moved, seconded, and unanimously agreed to:—

I. That the Royal College of Physicians of Edinburgh did, several years ago, publicly express its opinion of Homœopathy and Homœopathic Practitioners, by peremptorily declining to admit into its body a Candidate for its Fellowship who belonged to that denomination; and, consequently, that no Fellow of the College can possibly be ignorant of the light in which all those who practise Homœopathy are regarded by the College.

II. The College regrets that, notwithstanding this decided expression of its opinion, more than one of its Fellows, after being admitted in a different character, have endangered the reputation of the College by becoming Homœopathic Practitioners; and the College expresses an earnest hope that these Fellows, seeing they have thus virtually separated themselves from the College, will spontaneously sever their further connection with an Institution which repudiate them, and from which they can derive, as merely nominal Fellows, nothing else than a false position and a spurious credit.

III. The College feels the more bound thus to express its opinion, seeing that those Fellows who have become Homœopathists, and any other Medical Practitioners who follow Homœopathy, must necessarily be aliens to the other Fellows, and to the profession at large; inasmuch as no Fellow of this College, or any other Physician, can, by any possibility, without derogating from his own honour, and from the honour of the profession, meet Practitioners of Homœopathy in consultation, or co-operate with them in the other common duties of professional life.

IV. That although the College has not thought it expedient hitherto to take any active steps for disclaiming those Fellows who have become Homœopathic Practitioners subsequently to their admission to the College, nevertheless, since it has the power of dealing summarily with those who act in a manner so unbecoming the character of a Physician, it reserves its right to exercise that power when it shall be so advised.—Signed in Name, and by Authority, of the College, J. Y. SIMPSON, President.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 23d inst.:—Messrs. G. E. Webster—W. H. Stretton—C. D. Kingsford—J. Couch—J. J. R. Cocq—T. Odell—W. J. Shore.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, May 24.

BIRTHS.		DEATHS.	
Males....	748	Males....	512
Females..	686	Females..	488
	1434		1000

CAUSES OF DEATH.

ALL CAUSES	1000
SPECIFIED CAUSES	998
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	197
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	34
2. Brain, Spinal Marrow, Nerves, and Senses	121
4. Heart and Bloodvessels..........	39
5. Lungs and organs of Respiration	176
6. Stomach, Liver, &c.	67
7. Diseases of the Kidneys, &c.	11
8. Childbirth, Diseases of Uterus, &c.	12
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin..........................	4
11. Premature Birth	42
12. Old Age	40
13. Sudden Deaths..................	4
14. Violence, Privation, Cold, &c....	14

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	18	Convulsions........	41
Measles............	42	Bronchitis	71
Scarlatina	17	Pneumonia	80
Hooping-cough	59	Phthisis	148
Diarrhœa..........	12	Lungs	5
Cholera............	0	Teething	18
Typhus............	18	Stomach	5
Dropsy	10	Liver..............	9
Hydrocephalus	39		
Apoplexy	32	Childbirth	5
Paralysis	23	Uterus	3

REMARKS.—The total number of deaths was 128 *above* the average mortality of the 21st week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·02
„ „ „ Thermometer[a] ...... 53·
Self-registering do.[b] ....Max. 84· Min. 30·
[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·23.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1° *below* the mean of the mouth.

NOTICES TO CORRESPONDENTS.

Communications have been received from Dr. Turnbull and Dr. J. B. Nevins.

The necessity of publishing two courses of lectures at the present time, has compelled us to postpone several papers which are in type, including those of Mr. Smith, Dr. Speer, Dr. F. J. Brown, and Mr. Balman.

The Reports of the Liverpool and Newcastle Pathological Societies next week.

Lectures.

THE LUMLEIAN LECTURES
FOR 1851.
ON THE RECIPROCAL AGENCIES OF MIND AND MATTER.

Delivered at the Royal College of Physicians,

BY J. C. BADELEY, M.D., CANTAB.
F.R.C.P., Inspecting Physician to the Lunatic Asylums of Essex, &c.

LECTURE II.—PART I.

On nervous agency.—Insanity—early indications of it—instances of the acuteness of insane people—tendency of women to insanity—its exciting causes—study.

IN my preceding lecture I endeavoured to pourtray some of the leading agencies of the mind (through the medium of the brain and nerves) on our bodily structure, and, as far as the impenetrable mysteries of the *modus agendi* will admit, to describe their operations and results. Their extensive variety—their extraordinary manifestations—their morbific and fatal consequences, are daily evinced, and indisputably established; and the more seriously we reflect on them, and the more carefully we contemplate them, the more imperatively are we bound to admit—

> "How complicate—how wonderful is man!
> How passing wonder He that made him such!"

We have shown in a few instances how the whole animal machinery is subject to the two classes of nerves—to those which proceed directly from the brain and spinal marrow, and, in accordance with their origin, are termed cerebro-spinal; and to those which are characterized by ganglia, and termed ganglionic. The former comprise that portion of the nervous system which relates to sensation and volition; the latter consist of those which supply involuntary motion, and which are the source of nutrition, and of the movements of the internal muscles over which we have no control. To these Sir Charles Bell has added the "Respiratory:" their functions are separate; and the distinction is demonstrated by the circumstance that the latter can be carried on independently of the former, as has been proved by the physiological experiments instituted by Le Gallois, Sir Benjamin Brodie, Dr. Wilson Philip, and others. There is, nevertheless, a concatenation of the whole nervous system by various minute filaments, connected also with the sanguiferous system; and as the function of secretion is effected by the action of the nerves on the blood, it is evident that the different secretions vary in proportion to the supply of nervous power: hence it is that diseases are established by the combined influence of the brain and spinal marrow, employed as they are in forming the secreted fluids, and in supporting the other processes on which the due structure of every part depends. Hence also arise the phenomena and treatment of disease in general; the restoration of health being, in other words, the restoration of secretions. Now, although I have said that the functions of the sensorial and of the nervous powers are separate, the sensorial power is capable of impressions on the involuntary muscles through the medium of the sympathetic or ganglionic nerves, as is evinced under the excitement of various mental emotions and passions. Again, the temperature of the animal body is maintained by the evolution of caloric from the blood through the agency of the nerves; for the temperature of any part is reduced by whatever impairs the action of the nerves supplying it; and the whole body is reduced in temperature where the whole nervous system is affected. I merely mention these well-known facts in confirmation of the entire subjection of the body to the mind through its material instruments the brain and nerves, and of the immense and universal influence which they possess and exercise over every portion of the animal economy.

The sensorium, evidently residing in and operating at the source of the nervous power, there receives the various impressions transmitted by the nerves, and there influences those nerves which convey its dictates. Thus all the functions of the nervous and muscular systems, by which we are connected with the world that surrounds us, are constantly subjected to the sensorial power; while the functions on which our life depends (with the exception of respiration) are only occasionally so, and under circumstances in which the will has no control. The muscles of respiration are only partly involuntary, for we can accelerate, or retard, and for a few seconds control them altogether, as is instanced in what is commonly called "holding the breath," though the impossibility of existence without the act of respiration very soon compels us to renew it. Were it not that the consequences of the lungs being deprived of atmospheric air predominate over that suspension of sensorial power which occurs in apoplexy, death would be the rapid result of every apoplectic seizure. Yet respiration becomes more laboured, slow, and stertorous, in proportion as the sensibility of the sensorium diminishes, till the last gasp is heaved, and life is extinct.

Enough has, however, been advanced in support of the power of the mind, and of its material agents. The respiration is instantly affected by it; and all the chaos of passion and of mental emotion is most graphically illustrated (as Sir Charles Bell has demonstrated), through the medium of what he terms the respiratory nerves.

Without entering farther, therefore, on the physiology of the nervous system, and retracing the ground which has been so assiduously trodden by those celebrated philosophers who have deeply investigated, and ably elucidated that obscure yet interesting mine of science, I have determined to take now a view of the mind of man in a state of disease. I have already represented it in many of its fitful vagaries, and attempted, however feebly, to recal its protean operations to your memory, where, in the zenith of its healthful power, it has partially affected, or wholly subjugated, its fragile encasement.

Over voluntary and involuntary muscles the mind exercises its omnipotence; and be the organ what it may, or the structure what it will, its influence and agency are despotic and supreme! That influence, however, is not confined to it in a state of health, since, when its leading ornament and peculiar human characteristic, Reason, has been overthrown, its many other attributes retain their seat: and memory, perception, volition, passion, sensation, would seem in many instances to have scarcely suffered from the shock. Now, although we began by admitting that the mind and body are distinct, it was also shown that the one was indispensable to the manifestations of the other; and therefore, if its material organ was impaired, the operations of its immaterial tenant would generally be perverted or annihilated. The modifications of disordered action which ensue from its impairment will be principally regulated by the seat of the disease; and a tolerably accurate diagnosis may often be formed accordingly. The form also of the disease frequently betrays the pathology; for the brain, like other organs, being liable to disease of structure as well as to disorder of function, the researches of anatomy have shed a valuable light on the prognosis as well as on the diagnosis of mental diseases.

Insanity exists frequently without any disorganization of the encephalon, is purely functional, and is then infinitely more amenable to remedies; indeed, where it depends on extensive disease of structure, all hope of recovery must be utterly abandoned. Its invasion is generally gradual. There is a period of what has been appropriately termed "Incubation;" and this is the period in which it is the most under our control.

That the longer the disease has existed the less is the probability of recovery, is, I believe, universally acknowledged by all who have devoted themselves to this branch of our profession; and the statistics of the malady prove it. Andral considered it incurable after the expiration of two years; but unless it be dependent on lesion of structure, experience leads me to dispute his opinion. That such recoveries are comparatively rare I am free to admit; but their chances mainly depend on the care, kindness, and comfort afforded them. Many paupers, who had been inmates of workhouses for years, considered incurable, and neglected in consequence, have been restored after a few months' residence in a county asylum, where they have been more carefully treated, and more kindly used.

Since, then, the invasion of insanity is generally gradual, the slightest alteration in the habits or natural disposition (especially where there exists an hereditary tendency), should be carefully observed. Few people are Phrenologists, but all are Physiognomists; and the expression of the countenance, and particularly of the eye, will frequently give the first notice of the incubation. It shrinks from the popular gaze, and catches furtive glances of the visitor; it has a sly, and a fixed and downward look; or it has a vagrant and vacant expression: in some it has a quickness and restlessness; but, be the bias what it may, there is an indescribable character beaming through its glassy surface, which tells the tale to the experienced observer. In the exercise of my office of visiting physician to the asylums in Essex for the last twenty-four years, I have always studied this feature, and have found it most valuable in assisting me to decide on the existence of mental disease, where the aberration has been so slight, or the part of sanity so ably acted, as to almost deceive the magistrates who have accompanied me in my visitations, and induce them in fact to doubt the propriety of the confinement. Dr. Male says, "Insanity may generally be discovered by a wildness in the eyes; very high or very low spirits; extravagant or inconsistent conversation or action. The eyes are sometimes fixed for a long time on one object, and often on vacuity. These first symptoms (he adds) usually pass unnoticed by inexperienced observers; and it is frequently difficult to convince them that the patient is insane, unless his conversation is absolutely incoherent, or his conduct dangerous." (p. 209.)

The appeals of patients for liberty are perpetual, and generally supported by so positive an assurance that they are unjustly detained, that I have frequently had great difficulty in satisfactorily controverting them; and special visitations, independently of those which are appointed by the Act of Parliament, have frequently been required for that purpose. A young lady of singular acuteness and of finished education, who held the situation of governess in a family, and was sent to the asylum of the late Dr. Allen, of High Beech, addressed me once in these words:—"I understand, sir, that you are the visiting physician to this establishment, and that one of your duties is to see that no person is improperly confined here. Now, sir, as I assert that such is my position, gauge my intellect!" and in the examination which devolved on me, and which lasted a considerable time, I was most forcibly reminded of the words of Shakspeare:—

> ———"How pregnant her replies!
> A happiness that madness often hits on,
> Which sanity and reason could not be
> So prosperously delivered of!"

In this instance the wildness of the eye was discernible, and at variance with her well-dissembled firmness and self-possession.

The acuteness of the insane in disguising their malady is astonishing. In a case of madness tried at Chester before Lord Mansfield, the patient was so clever that he evaded questions in court the whole day, and seemed to every body perfectly sane. Dr. Batty, however, came into court, and, knowing the point of the man's derangement, asked what had become of the princess with whom he had been in the habit of corresponding in cherry-juice? Instantly the man forgot himself, and said it was true that he had been confined in a castle, where, for want of pen and ink, he had written his letters in cherry-juice, and thrown them into the stream below, where the princess had received them in a boat. This man had had sagacity enough, during the whole of the day, to answer correctly all the questions put to him in court, Lord Mansfield being the presiding judge. Even the acuteness of Lord Erskine was insufficient (being unacquainted with his particular hallucination), to detect the insanity of a lunatic who fancied himself to be Christ; and he was indebted for the discovery to the presence of Dr. Sims.

Sleeplessness is another predominant feature in early as well as in matured insanity. The sensorium is too morbidly alive to sanction healthy rest, and the busy imagination is at work by night as well as by day. It is mostly referrible to excess of nervous and vascular action in the brain, like the delirium attendant on fever, and is accompanied by the ordinary indications of preternatural excitement consequent on such excess, and superseding the feeling of exhaustion.

A morbid perversion of the affections and natural feelings, though unattended by any perceptible lesion of intellect, is a very frequent early indication; nay, so constant is this moral alienation, that it is considered by Esquirol to be the proper characteristic of mental derangement. We observe it vividly marked in puerperal cases, and I have witnessed feelings of strong attachment suddenly supplanted by indications of decided aversion to the husband and children. Utero-gestation of itself, independently of any tendency to insanity, is frequently accompanied by extreme susceptibility of impressions, by peevish irritability of temper, by depression of spirits, and other reflections of the womb on the brain and nervous system.

The state of the mother during pregnancy is frequently also communicated to the infant, even where no constitutional liability to insanity exists; and it is in the womb that we are to look for some of the modifications of mental disease. The mother, who would otherwise have had the gratification of witnessing the "mens sana in corpore sano" in her offspring, had the current of life and circumstances run smoothly during that important condition, will, if subjected to fright, or vexation or anxiety, or other causes which disturb her mental serenity, give birth to infants whose brain and nervous systems will be liable to convulsive or spasmodic affections; or, as they advance in life, to imbecility or dementia. This was abundantly proved during the excitement of the French revolution, and is too often exemplified in private life, where the woman has been doomed to suffer unkindness, or unmanly violence, from him to whom she had been taught to look for comfort and support.

In a very considerable majority of cases of insanity in women, much of the disease will, however, be found accompanied by irregularities of the uterine system. This condition arises from, or may be partly attributable to, a state of congestion in which the brain participates, combined with the nervous irritation consequent on an altered state of the system, and is frequently relieved by the abstraction of a few ounces of blood. The practice of venesection during pregnancy (which was more common formerly) would, I have little doubt, tend more than any other measure to prevent both puerperal insanity, convulsions, and other common sequelæ of parturition; but the lancet has lost much of its pristine popularity.

In addition to the expression of the eye and countenance, to sleeplessness and alienation of feeling, there are numberless and various indications of change in the mental condition, such as thoughtfulness, inactivity, neglect of and apparent indifference to former pursuits and pleasures, absence, constipation, vitiated secretions, sudden impulses, restlessness, extravagant schemes, suspicion, sudden bursts of laughter or of tears, &c. &c. Some forms of insanity, indeed, so closely resemble aggravated cases of hysteria, as almost to identify them, especially in that form which is termed *Erotomania.* Here there is generally some irregularity in the uterine function, together with excited imagination, protracted desire, and great susceptibility of the whole nervous system, of all which the maiden "nulli bene nupta marito" is peculiarly the subject. This is another illustration of the effect of the mind on the body.

The brain is at first only sympathetically affected; but the reiteration of hysteric paroxysms will occasionally induce a morbid action of it, with delirium, and ultimately insanity,—more particularly where the exciting cause is referrible to blighted hopes and affections. And when I speak of this as a cause of mental derangement, I will venture, without fear of contradiction, to assert that *any* strong impression on the sensorium, or *any* passion in excess, may give birth to it, especially where there is a constitutional predisposition to the malady. Dr. Prichard (the late commissioner in lunacy) considered the passions and emotions the principal and most frequently productive causes of madness; and, in common with Pinel, Georget, and others, was of opinion that the moral causes predominate considerably over the physical. In the wealthy and well educated classes of society there can be little doubt of it, for obvious reasons; but amongst the poor and uneducated I believe that the balance will be found in favour of the latter; their intellect, rusty by disuse, is less under the influence of excitement; their feelings are more dull; their nerves less sensitive; and, unless roused into action by spirituous stimulants, their general susceptibility is less acute. Hence it is that amongst the savage tribes, where the mind is totally uncultivated, insanity is comparatively rare. Rush pronounces it to be unknown amongst the North American Indians. Intense study, on the other hand, is an occasional source of it; and the too close application and over-strained mental exertion in some of the forcing-houses for puerile intellect called "Seminaries," frequently lay the foundation of nervous disorders, and even of insanity, in those who are delicately constituted, or in whom an hereditary predisposition exists.

Rousseau considered reading to be the scourge of infancy, and would not allow his Emilius to learn a line by heart till he was twelve years old. Madame de Sevigny says also:—"Je suis persuadéa que la plupart des maux viennent d'avoir le cul sur selle!" Children of the present age are sometimes too much confined; and if constrained (observes Dr. Darwin) to sit in the same place for hours together, are liable to acquire a habit of playing with their hands, feet, &c. called "tricks," to exhaust an accumulation of the irritability by which they are goaded.

Where the amount of study exceeds the capability of enduring it, especially in young subjects, fearful consequences may be expected. The susceptibility of the immature brain is stimulated at the expense of bodily power; the forced plant is watered with the blood of life, and nature's laws are violated irreparably. Thus, in alluding to the budding genius of "unhappy White," Byron exclaims—

> "Oh! what a noble heart was here undone,
> When Science self destroyed her favourite son!
> Yes, she too much indulged thy fond pursuit;
> She sow'd the seeds, but Death has reap'd the fruit.
> 'Twas thine own genius gave the final blow,
> And help'd to plant the wound that laid thee low!"

Dr. Andrew Combe observes, "I have lately seen several instances of insanity, and also of total incapacity for future useful exertion, brought on by long protracted and severe study, in subjects whose talents, under a better system of cultivation, would have raised them to eminence. Pope was a remarkable example of this. By excessive application he fell into that state of exhaustion which Smollett also once experienced—a "coma vigil"—a sort of torpid indistinct existence—an affection of the brain when the principle of life is so reduced, that all external objects appear as if passing in a dream: and it was only by giving up study and riding on horseback that he regained comparative health. Sir Humphry Davy brought on a severe fit of illness by over-excitement of the brain in his chemical researches; and in his interesting life of him Dr. Paris has stated that "he was reduced to the extreme of weakness, and his mind participated in the debility of his body." (p. 183.)

It is the same with the brain as it is with the muscles: exercise strengthens and refreshes, but labour weakens and exhausts their power; and, as in the lamentable instance of Sir Walter Scott, where, in the decline of life, his embarrassed mind and circumstances compelled him to force the brain beyond what it was willing to supply, it sunk under the exertion.

Let me not, however, by these observations, be branded with the stigma of discouraging literary labour. A man may denounce intoxication without abjuring wine,—and a physician may prescribe opium with advantage, though an overdose may destroy life. The mind of every man is not only capable of, but improved by a definite proportion of exertion. Attention may be, and ought to be, kept up for a certain time; and, by frequent exercise, the study which at first occasioned fatigue may be protracted with facility and pursued with pleasure; and it is worthy of record, that mathematicians and philosophers have generally attained a considerable age,—so that even abstract calculation, or correct thinking, does not appear, with all these delirious visitations, to shorten the duration of life, or Sir Isaac Newton would have died long before he reached his 85th year. Mathematics have, in fact, been considered to be prophylactic of insanity, instead of inducing it; and Plato designated mathematical demonstrations the "purgatives of the soul." Certainly, as the late Sir Henry Halford observed, "nothing more entirely bars the intrusion of 'thick-coming fancies,' by occupying the whole mind, than mathematical studies; and he instances a physician who, whilst he was practising physic with great reputation in the country, became deranged. After a separation from his family of some months, he was advised to resume the study of Euclid, to which he had occasionally dropped hints of his partiality. He did resume it, and with the happiest effect, and recovered at length so entirely as to be able to recommence business in London, and to continue to practise physic until his death." (Essays, p. 134.)

A certain learned member of the present House of Lords, I am informed, is in the habit of seeking recreation of his mind from abstruse political studies, by solving quadratic equations and stiff problems. Lord Bacon advised that "if a man's wits be wandering, he should study mathematics."

The poet, on the other hand (whose imagination is ever on the wing, whilst his reasoning powers are comparatively at rest), is more liable to insanity than the philosopher; and it is a curious fact that, in one asylum which I visit, the great nephew and niece of one celebrated poet, the son of the author of a poem which has immortalized him, and John Clare (the celebrated Northamptonshire rustic poet), were all inmates at the same time. The "Insanit, et versus facit" was frequently exemplified in Clare, even during my visitations; and I have by me several pretty poetical effusions written by him during his confinement there.

Original Communications.

INFANTILE REMITTENT FEVER,

WITH ESPECIAL REFERENCE TO ITS DIAGNOSIS FROM HYDROCEPHALUS.

By CHARLES TAYLOR, M.R.C.S.
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[Continued from page 958.]

3d. *The chronic form.*—Under unfavourable circumstances, whether as to the constitution of the child, or the locality of its residence, the chronic form may supervene on the acute, or, what is more frequent, the disease is chronic from the commencement, and succeeding on what has been described as the mild and comparatively trivial form. Here the previous derangement of the general health has most likely continued for some time before the attention of the parents has been drawn to it, and, if noticed, it has been thought of no importance, and that the child would soon be better, until the lapse of time shows that, instead of improving, he becomes daily more peevish, fretful, and loses flesh.

It not unfrequently happens that the child having been poorly for a few days or a week, becomes better for a short time, and this state is again succeeded by a return of the general derangement.

The symptoms, though less defined than in the acute form, are yet sufficiently characteristic. The face is less flushed, but has more of the sallow dirty aspect, and the dark areola around the eyes is more marked; the skin is but slightly increased in temperature, and, during the remission, is often cool and flabby; the paroxysm of fever is less marked, and imperfect, and is often absent, or apparently so, for a day or two, and then again appears. The hands and cheeks are frequently the only parts where an increase of heat is noticed. In this form worms are not unfrequently present, together with a greater degree of gastric and intestinal irritation, and it often assumes the character which Dr. G. Bird mentions, of true malarial disease combined with an idiopathic gastro-intestinal irritation.

The bowels are always in an irregular condition; sometimes costive, sometimes there is diarrhœa, with a tumid condition of the abdomen; the motions are more offensive, and similar to Dr. Butter's description before alluded to. The tongue is more foul, the papillæ injected. There is occasional nausea, and the appetite is very fanciful. The pulse, although not so quick as in the acute form, is yet almost always above that of health, being quick and irritable.

The picking of the skin is more constant, and the angles of the mouth, or other places that are picked, present sores that are very characteristic. Chronic cutaneous eruptions—as ecthyma, porrigo—not unfrequently occur. During the entire period of this form of disease, the child is often not so ill as to keep his bed, but is fretful, weak, and disinclined to exertion. The duration is often of some months, and recovery takes place very slowly; occasionally the child is better for a time, and then, owing to some error in diet, or other casual circumstance, again becomes worse.

This form, when neglected, or even with the greatest care, in scrofulous children especially, is likely to induce the development of mesenteric disease, phthisis, hydrocephalus, chronic inflammation and ulceration of the intestine, and enlargement of the spleen; this latter occurring more frequently than is supposed.

When the chronic form occurs after measles, scarlatina, or hooping-cough, or other diseases where there has been inflammation of the intestinal mucous membrane, it is peculiarly subject to a relapse, is often accompanied by scrofulous sores on the skin, and aphthous ulceration of the lining membrane of the mouth.

In March 1843, I had under my care a poor family of four children, in whom, after measles, this low form of remittent fever, with bowel irritation, occurred, together with a tendency to a typhoid condition. They had been badly nourished, and all of them had ulcerations on the interior of the mouth; and in one cancrum oris* was developed, a portion of the cheek sloughing away, and the child eventually died. Dr. West informed me he has also met with two cases which terminated fatally from gangrene of the cheek.

Chronic Gastric Remittent Fever.

Case XII.—The following case, abbreviated from Dr. Bird, illustrates remittent fever preceded by gastric fever, and accompanied by ascarides in the motions (Case 3, Dr. Bird):—

Male, æt. 6, residing in Clerkenwell, an offensive drain being at the back of the house. Four weeks ago suffered from malaise; from that time has emaciated: irritable, and appetite lost.

Jan. 16.—On admission aspect dull and heavy, cheeks flushed, manners petulant, skin hot, tongue white, projecting red papillæ, slight diarrhœa, motions offensive; at night is feverish, with delirium; in the day-time there is headache: pulse quick and jerking; no cough.

27th.—Remissions this morning; pulse 70. Duration of illness four weeks before admission and three weeks after.

Treatment.—Jul. Menth. c. Sodæ, and quinine afterwards. As in Case XI., I have only taken the leading symptoms, which will be seen by a reference to the reports (Guy's Hospital Reports, vol. iii. new series).

Acute Remittent Fever succeeded by Chronic.

Case XIII.—July 1844. A young girl, aged 9, was under my care with a severe attack of acute remittent fever. She resided in a most unhealthy situation, a stagnant ditch being opposite the house, and the locality was scarcely ever free from fever. She became convalescent in three weeks, but, still residing in the same place, she was attacked a fortnight after with fever of a chronic form, from which the recovery was very tedious, and was followed by porrigo decalvans. Her sister, aged 3, the following month also became ill, with fever and diarrhœa; in her instance also followed by the chronic form, with much bowel irritation.

Chronic Gastric Remittent Fever complicated with Pneumonia of Upper Right Lung and Anæmic (?) Murmur.

Case XIV.—Dec. 14th, 1848. T. C.,

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* Dr. Churchill states "that, according to the testimony of Thomassen and Thymen, it (cancrum oris) prevailed epidemically in the Netherlands, as a consequence of gastric fever, and also, in 1838, in the Philadelphia Almshouse."—Dis. of Child. p. 410.

æt. three years and a half. Male. Formerly a robust child, and enjoying good health, but for the last four months has been ailing. Three weeks back he had an attack of cynanche parotidæa, from which he gradually recovered; since which time he has had his tongue furred, quick pulse, a febrile attack every night, and at other times in the day has looked pallid, with a dark areola round his eyes. Has been fretful and peevish; frequently picking his nose and rubbing one eye, which has a crack in the upper lid from a slight degree of psoriasis. Appetite precarious, but never as good as natural. The bowels somewhat confined, deficient in bile. The urine has been scanty, and depositing lithates. Has taken the Hyd. c. Creta c. Pulv. Rhæi occasionally, and the Julep Amm. Acet. mixture, but is now taking the soda mixture ter die.

Under this treatment he gradually recovered his strength, but was not in a good state of health, when in January he had an attack of lobular pneumonia of the right lung, which came on insidiously. By means of Cal. and Ipecac., and antimonials and repeated blisters, he recovered from this chest attack, but again returned into the same chronic derangement of his general health as he suffered from before. Without particularizing his symptoms, of which I have no daily note, they were those characterizing chronic remittent fever of a gastric type; and on 19th Feb. his tongue is reported to be moist, with a yellowish-white fur, thick in centre and at the root, but getting thinner towards the apex and edges, in which latter parts the papillæ are prominent and red. About this time Dr. Addison saw him, and considered him suffering from chronic gastric fever, and advised change of air.

For some days past a murmur or bruit has been observed to the right of the sternum, even with the situation of the aortic valves. Respiration in the apex of right lung good; slight mucous crepitation towards the base: percussion of the chest good. The crack of the eyelid is troublesome; if better a day or two, again breaking out.

March 3d. — The tongue continues furred: papillæ red and lengthened; pulse feeble, quick; has excoriation about the anus; has been taking cod-liver oil, ʒj. twice a day, the last five days. Bowels irregular; motions offensive, and of a mixed colour—yellow and greyish. Becomes slightly feverish towards night, and his sleep is disturbed. The murmur is loud over the junction of the sternum and third rib, and upwards to right side, masking the respiration in the apex of right lung.

10th.—Tongue improving; papillæ less lengthened and injected; cardiac sounds the same; corners of mouth for some days have been ulcerated and cracked, and he is frequently picking them.

A small blister was applied behind the ear with a view to remove the crack on eyelid: it was kept open a fortnight, and appeared to do some good.

April 14th.—Tongue tolerably clean; and has been gaining flesh the last two weeks. A month's absence from home, and afterwards a change for a few weeks in the country, was of the greatest benefit to him.

In May, Dr. A., who saw him again, and examined him carefully, found the murmur only occasional, and much less intense; he considered the murmur had been venous, perhaps produced by some enlargement of the bronchial gland, and kept up by his continued gastric derangement. He is now hearty and well, having taken the cod-liver oil about two months. The murmur subsequently left entirely.

4th. *Typhoid.*—As in the continued fever of adults, so in the febrile affections of children, a low or typhoid form may supervene on an acute attack, or it may assume this character from the commencement; the patient becomes gradually weaker and more feeble, and throughout the day a drowsy condition approaching to stupor ensues, from which it is very difficult to arouse the child; the tongue becomes dry and brown, and often, if diarrhœa is present, or other indication of enteritic mischief, it is red and shining; the teeth and lips are covered with sordes; the pulse becomes very quick and feeble, and sometimes small and thready. With the stupor there is now low muttering delirium, and during this state the child will often pick himself severely. The bowels in general become relaxed, the motions being of a yellow ochry colour, and there is often pain on pressure in the abdomen, more particularly towards the right iliac region; sometimes the sphincters lose their power, the motions and urine passing involuntarily. Petechiæ occur, and in one case under my care bullæ, followed by incipient gangrene, made their appearance (see Case XV.).

During the time that these symptoms are at the worst, the child will sometimes refuse to take any food. Dr. Pemberton says he has known the appetite to be so totally deranged that half a pint of toast water is all the nourishment taken in the twenty-four hours. On the other hand, we sometimes find the patient to take eagerly and freely of beef-tea, and arrow-root with wine. So, also, of the delirium which is so frequently present, we have many cases where the patient becomes excessively prostrate, and yet the delirium is but slight. In the advanced stage of this disease, Dr. Coley refers to the occurrence of discoloration and separation of the skin; and Dr. Pemberton has described a scaly separation of the cuticle as indicative of enlargement of the mesenteric gland; but Dr. Coley says "he has observed it when there has been no mesenteric disease, or, if present, there has been remittent fever, and evident disorder in the secretions of the liver and intestinal canal; and this latter has been the most urgent and conspicuous malady." He considers it proceeds from heat and dryness of skin, when the fever has been of long duration, and is probably a death or destruction of the cuticle.

Simple exfoliation of the cuticle, according to my experience, is not an uncommon occurrence towards the decline of the disease, but not in any way characteristic of any form of remittent fever.

An eruption has been described by Rilliet and Barthez, occurring, about the end of the second week, in typhoid fever, only, however, in the minority of instances; and, when present, it is generally scanty, often visible only two or three days, and often absent altogether. In his work on Diseases of Children, Dr. West does not mention that he has met with it; neither am I aware that any other author has: certainly it is not in this country a general attendant upon remittent fever. I have in a very few cases seen spots or maculæ, in cases of fever in children, similar to the maculæ that appear in some epidemics of fever in adults.*

The duration of this form is from two or three weeks to a month, or even longer; the termination most frequently in recovery; the signs of returning convalescence consisting in the gradual cessation of the symptoms, the cleaning of the tongue, and the improvement of the different secretions. Sometimes, however, instead of recovery, death ensues, either from the severity of the typhoid symptoms, or from ulceration, and occasionally from perforation of the bowel, or from cancrum oris.

Typhoid Fever with Bowel Irritation and Pompholyx.

Case XV.—E. T., æt. 12. Jan. 1st, 1846. Her brother had an attack of fever assuming the typhoid form about two months back. A tall girl, with dark hair and eyes; was pretty well on Christmas day, but the evening after, when out with some friends, was observed to be dull and indisposed. Since then she has been getting gradually worse, having general malaise, complaining of headache, rigors, followed by slight heat; and this day (1st Jan.) I first saw her. She was labouring under the usual symptoms of fever in the advanced typhoid stage, having the dull stupid aspect, vacant eye. She had been delirious the last three or four nights. The tongue was perfectly dry, parched, and cracked, at times bleeding; the lips and gums covered with sordes, and at times also bleeding; her bowels were relaxed, with abdominal pain; low muttering delirium at night; incapacity of being moved or turned in bed. She progressed favourably for some days, when, on Jan. 7th, I found her much weaker. The day previous some bullæ had made their appearance; one on the right knee over the inner condyle, one on the left ear, and two on the left cheek. The one on the knee, larger than a crown-piece, was now broken, and of a red colour, in one part assuming a gangrenous appearance; the one on the ear also broken; those on the face were entire, about the size of a shilling, of an opaque straw colour: their first appearance was vesicular, about the size of a pin's head, and their contents opaque. The bowels were relaxed nine times in the day, with much pain of the abdomen generally, increased on pressure; great heat of abdominal surface; skin cool, except face, which is flushed on the *right* side. Pulse 126, feeble; tongue brown, dry, cracked. No delirium last night, and slept better; answers questions readily. There is a red spot on outer ankle of *left* leg—painful. Right foot much swollen, and painful. No cough; chest normal. Linseed meal poultice to abdomen.—℞ Mist. Cretæ, ℥j.; Syr. Pap. ♏xv. after every relaxed motion. Wine, ½ oz. every 4 hours; beef-tea and arrow-root, &c.

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* "Dr. Condie has noticed a rose-coloured eruption upon the abdomen and inner surface of the thighs."—Churchill, Dis. of Child., p. 639.

Dr. Jenner has given a minute account of the rash in typhus and typhoid fever, and is of opinion that typhus, typhoid, relapsing fever, and febricula, are not varieties of continued fever, but distinct diseases. Dr. Stewart also gives the distinction between the rashes of typhus and typhoid fevers.—See Dr. Jenner's excellent papers in Med. Times, 1849-50; and also Dr. Parkes' edition of Thomson on Dis. of Skin.

8th.—Slept at intervals during the night; no delirium; bowels opened three times, the last motion rather firm, and well supplied with bile; water scanty, high coloured; tongue still dry, but cleaner; pulse 136, rather more power. The two bullæ on the cheek have broken, and assumed a similar appearance to the others: one small one has appeared on the right cheek. More collected to-day; has taken rather more than a pint of beef-tea and two eggs. Rep. Mist. Cretæ, urgente diarrhœa.—℞ Quin. Disulph, gr. j.; Syr. Pap. ♏xv., ex aqua sextis horis.

9th.—The abdominal pain removed; only one motion to-day; took nourishment freely; passed a good night, but appeared sinking. I was prevented seeing her this day, and had no notice either of her being worse or of her death; was told she took nourishment within an hour of her death, and was quite sensible. The bowels were not loose; did not appear in any pain, but sank: they would not permit an inspection.

REMARKS.—This patient when first seen was labouring under the symptoms of typhus fever in the advanced stage. In November I saw her brother with fever, who got well, and was presented Dec. 10th. They lived in an open road, but the back of the house was offensive from an overrunning drain, and the family were overcrowded: their illness doubtless arose from malaria. The brother's attack, who was younger, partook of a remittent character: they both had bowel complication.

The brother had been delirious for eight or ten nights, and scarcely able to speak. I had him removed to the top room of the house without furniture or fire. The girl, more coherent throughout, her mind more collected, but more feeble, lay in a back parlour next their common living room. The treatment was the same—ammonia and serpentary, wine, and afterwards quinine; but, *four* days before her death, these bullæ appeared, and, on the vesication breaking, assumed a gangrenous appearance in the centre; they had more the character of pompholyx than pemphigus, as described by Dr. Bateman. The surrounding skin was not inflamed, nor the margin hard, the margin being only rather red.

Dr. B. alludes to the pompholyx diutinus being symptomatic in continued, intermittent, or remittent fevers in debilitated constitutions. I am inclined to think (as gangrene followed) it showed a commencing dissolution in the part, and was analogous to sloughing of the cheek (cancrum oris), or sloughing of the labia pudendi, which we also find occasionally occur in chronic or typhoid fevers. The œdema about the ankles was also a sign of the failing of the constitutional powers.

5th. *Malarial disease.*—There is also a form of derangement of the general health which has many of the symptoms mentioned in the mild form without the paroxysm of fever. It may be considered by some as not being the identical affection; but I conclude it is at least the early or premonitory stage, because in one family where three or four children are the subjects of illness, one child may have all the symptoms—as loaded strawberry tongue, pallid aspect, &c.—without any paroxysm of fever, or even any increased heat of skin, and the others shall have a well-marked attack of remittent fever. I have drawn attention to this, as it is of frequent occurrence, and yet it is not mentioned by any author, with the exception of Dr. Addison,* who makes his first class of cases "as unattended by any febrile exacerbation whatever," and afterwards says "they are most frequently met with." It is more analogous to the mild form, and, for the sake of giving it a name, it may be termed "malarial disease"—a term, I believe, occasionally used by Dr. Addison.

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* Bright and Addison's Pract. of Medicine, p. 64.

These different forms of fever which I have endeavoured to describe as occurring in children, run into one another, and in one locality; the disease may appear under every variety at one and the same time, thus showing their connection and the similarity of their origin.

[To be continued.]

CASE OF

RED SOFTENING OF THE PONS VAROLII

(OF UNCERTAIN DURATION); MENINGITIS, WITH SEROUS EFFUSION INTO THE ARACHNOID CAVITY (DURATION: EIGHTEEN DAYS); COMA THIRTY HOURS; DEATH; EXAMINATION OF THE HEAD.

REPORTED BY DR. FRED. JAMES BROWN,
Strood, Kent.

UNDER THE CARE OF
DR. JOHN DAN. BROWN,
Strood, Kent.

JANE W., aged eighteen years, daughter of poor parents, but residing for several years with respectable families as a domestic servant, was first seen by Dr. Brown on the 15th December, 1850. Her stature was tall, but the catamenia had not appeared, and the mammæ were undeveloped. For the last three years she was subject to headache; and during the two months preceding the present seizure she frequently complained of severe pains in the head, and of dyspnœa. A paternal uncle died of cerebral disease; and a cousin on the mother's side died of acute inflammation of the brain.

She stated that she was seized with shiverings on the 9th December, succeeded by heat of skin and pains in the head, back, and legs. She continued ill, and was taken to her parents' residence in Strood on the 13th, but was not visited till the 15th December. There was a renewal of the shiverings on the 15th, with frequent retching, and pains in the head, back, and both the upper and lower extremities. The countenance was pallid, and the pulse weak, and not frequent; the tongue was moist and clean, but the bowels were confined. Aperient medicines, repeatedly given, only procured a motion after two days, and the retching and other symptoms continued unabated. Febrifuge medicines were exhibited.

On the 19th she was more carefully examined. The countenance was pallid, but exhibited traits of a flush; pulse 82, weak and large; tongue clean: bowels not open for two days; retching; urine passed in moderate quantity; pain in the nucha, forehead, loins, umbilical region, and legs, and shooting down the arms like hot wires, accompanied by some numbness. Her manner was altered, and there was unwillingness to answer questions, and great disinclination to be disturbed. Three leeches were applied to the nucha, and purgatives exhibited. The alcoholic tincture of aconite was ordered in doses of one and a half minims every four hours. In the evening the retching was relieved, and the arms were free from numbness and pains: the pain had also left the head and abdomen. There were shudders, and great sensibility to cold, and exalted tactile sensibility of the surface of the chest. The countenance was changing colour frequently; the cheeks sometimes becoming crimson in hue, whilst the forehead remained pallid, and suddenly turning again to a marble whiteness: the right pupil was dilated, and the left greatly so, and scarcely obedient to light. Pulse small, and variable in frequency and force, and compressible.

Sonorous rhonchi, with mucous clicks, over the posterior portions of the chest. She slept most of the night, and on the

20th, the respiration was tranquil and free from rhonchus, and the countenance more uniformly coloured. The bowels had been opened, and the urine passed in fair quantity.

There was a return of retching, but no pain was complained of, except an aching in the legs; pulse 104, weak. Purgatives were repeated, the aconite continued, and a stimulating embrocation applied to the spinal region. She fell asleep in the evening, but passed a bad night; and, on the

21st, the respiration was uneasy, and the countenance changing colour as formerly; pulse 80, weak and sluggish; bowels had been twice open, but no urine had been passed; slight aching in the legs. Purgatives were again exhibited, and the aconite increased in dose to two minims. The urine was passed in considerable quantity in the evening. She passed a fair night, and slept on the 22nd till 4 P.M., when she awoke, and was unable to speak or to extrude her tongue. On being roused, she could only exlcaim, "Ut-ut-ut." Croton oil was exhibited, and a purgative enema ordered.

In the evening she was able to speak, but her manner was hysterical, and she refused to swallow medicine. A pill, consisting of croton oil, was nevertheless given her, and a leech was ordered to be applied to the nucha. The pupils were natural. She passed a fair night, and, on the

23rd, she still possessed the power of speech; but her countenance presented a muddy aspect. She made no complaint of pains. Pulse feeble, not frequent: the bowels had been open. She was ordered croton oil, and two drops were swallowed.

In the evening she appeared better, the bowels having acted twice.

She passed a fair night, and appeared still better next morning, the bowels having been freely open. On being questioned, she admitted that she had headache. Pulse 86, weak and intermitting. The hair was cut short, and cloths, dipped in cold water, applied to the head. Carbonate of ammonia, with tincture of valerian, was ordered; also a small quantity of wine.

She had less headache in the evening, but passed an indifferent night, sleeping little.

On the 25th, at 9 A.M., she suddenly screamed out, and then fell into a state resembling coma. Respiration somewhat embarrassed; skin warm; pulse 120, exceedingly variable in force, and occasionally in frequency; variability in the colour of the countenance; pupils widely dilated, and not obedient to light; right arm moving to and fro circularly; left arm powerless; left leg drawn upwards; apparent unconsciousness. The head was lifted up by the attendants, when the colours changed rapidly in her countenance (the crimson patches appearing and disappearing several times in one minute), and she opened the left eye widely, whilst the right upper eyelid drooped over the eye. At the same time the right angle of the mouth was forcibly retracted—the left remaining natural. On replacing her head on the pillow, the angle of the mouth returned to its natural state, and both angles were equal. A leech was placed on the right temple, and a blister on the nucha. An enema of turpentine and assafœtida was given her.

In the evening she still appeared to be comatose. Countenance flushed; pulse 120, variable; mucous rattling in the throat, but not in the bronchi; right arm continually moving; left arm lying powerless; the thumb of the right hand was powerfully extended at times, and subsequently fully flexed, but with less force; decubitus partly on right side, with both legs drawn up; pupils widely dilated; the eyelids of both eyes were occasionally opened for about one half, and then closed: at one period both eyeballs were turned to the right side, in the form of squinting. Angles of the mouth equal, and not retracted. Urine passed in bed. The enema came away without feculent matter. Another enema was ordered, also a turpentine cataplasm to the abdomen, and the head was shaved. She lay insensible all night, and gurgling in the throat recommenced at 1 A.M.

26th.—Countenance flushed at 10 A.M. The lips were pale; pupils widely dilated; pulse feeble, intermitting, not admitting calculation; respiration embarrassed; urine passed in bed; very little movement of the right arm.—She died at 4 P.M.

Examination of the body 48 hours after death.—Cadaveric rigidity; surface of body pallid. The head was the only part examined. The glandulæ Pacchioni were largely developed. The vessels of the dura mater were loaded with blood. On opening the arachnoid sac, there was an escape of serum, which, with the quantity at the base of the brain, amounted to four or five ounces. The ventricles contained rather more than the usual amount of fluid. The arachnoid and pia mater were of a dark red colour, having the vessels distended, and in several places burst; and small coagula were extravasated. The membranes could be peeled off the brain, leaving the sulci loosely separated, but without intervening fluid. The membranes were in the state described, over the whole of the cerebrum and of the cerebellum, but they were most intensely affected over the superior and lateral surfaces of the cerebrum. The grey matter of the cerebrum was softened; the white was of moderate consistence, and not congested. The posterior portion of the body of the fornix was softened. The choroid plexuses were pale. The corpora striata, thalami optici, and corpora quadrigemina, were healthy. The commissura mollis was entire.

The grey portions of the cerebellum were greatly softened, especially on the left side, where the softening was almost diffluent. The white portions were also softened. The pons Varolii was diseased; the anterior half was pulpy and disintegrated, and of a chocolate colour, with dark-red streaks interspersed through it. The diseased portion was abruptly bounded behind by the sound substance of the pons, but in front it was partly separated from the crura cerebri (which were healthy) by what appeared to be ulceration, but there was no pus visible to the unassisted eye. Over the diseased portion of the pons the membranes were strongly adherent, highly vascular, and roughened.

The medulla oblongata and upper part of the medulla spinalis were particularly firm and healthy. The basilar artery contained some blood, but was not diseased.

CASE OF
CANCER OF THE PYLORUS.

By J. R. Brush, M.D.
Assistant Surgeon, Scots Greys, Chatham.

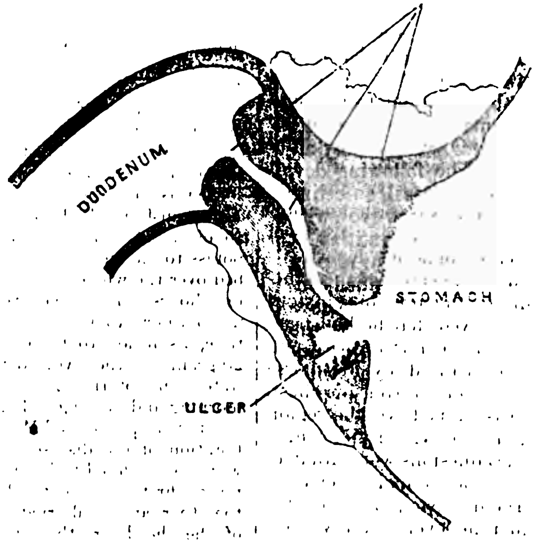
M'G. D., a private in the Scots Greys, æt. thirty-nine, a native of Scotland—brown hair and eyes; sallow complexion; billious temperament; twenty years in the service, during which period he has been in the habit of drinking large quantities of ardent spirits—was admitted into hospital on the 8th of March, 1851, complaining of a gnawing sensation at the pit of the stomach, with heartburn, flatulence, inability to retain his food, and other symptoms of dyspepsia. Has enjoyed good health, and has scarcely ever been in hospital since he joined the regiment,—once in the year 1845, from a pleuritic attack, occasioned by his horse falling on him, and injuring his chest; and again in the month of June 1849, when he was attacked with Asiatic cholera, at that time epidemic in the town of Longford, where the Greys were quartered. Since this period he continued to enjoy good health up to within four months of his admission, when he began to suffer from slight occasional attacks of dyspepsia, of which, however, he took no notice, but continued to perform his duty. On the 3d of March he applied for some aperient medicine, his bowels being constipated; but, with the exception of suffering from slight dyspepsia, asserted that he enjoyed perfect health. As the man's general appearance seemed to bear out this statement, and as he was free from pain or uneasiness in the abdomen, and could bear pressure without any inconvenience, an aperient draught was ordered, together with the usual remedies for dyspepsia, and an alterative at bed-time in the shape of 5 grs. of Plummer's pill. He attended as an out-patient for five days: the aperient draught operated freely; but the symptoms of dyspepsia continuing to increase, and being seized with vomiting on the 8th of March, he was ordered into hospital. At this time he complained only of a gnawing sensation at the pit of the stomach, with heartburn, nausea, flatulence, and inability to retain his food. He could bear pressure over the entire abdomen without the slightest inconvenience; and the symptoms, both local and constitutional, of inflammation of any of the viscera contained within this cavity, or of its lining membrane, were absent. The superficial veins of the abdomen, however, were enlarged and tortuous; and on further examination a nodulated moveable tumor, about the size of a bantam's egg, was discovered in the epigastric region, a little above and to the right of the umbilicus. The pulsation of the aorta was communicated to the lump, which could be handled and moved about without producing any inconvenience; but on pressing it firmly backwards towards the spine, the patient complained of pain. The tumor appeared to be situated immediately within the walls of the abdomen.

The bowels not having been moved for two days, he was ordered a draught composed of rhubarb and magnesia, which was retained in his stomach about two hours, and then rejected. A blister was applied to the pit of the stomach, and one minim of croton oil administered without producing an evacuation. Early on the morning of the 10th he took an ounce of castor-oil, which brought away one dark-brown watery stool. He vomited several times during the day, retaining his food (arrow-root) from between two to three hours. The egesta were of a dark-brown colour, and highly offensive, but not fæculent. In the evening an enema was administered, which passed off clear, without any admixture of fæces. The following day, the 11th, he expressed himself as feeling better, and beef-tea and arrow-root, with brandy, given in small quantities at short intervals, were retained, as also on the 12th; but the bowels continued constipated, and any attempts to move them by medicines administered by the mouth were followed by their rejection, and the enemata passed off clear, without bringing away any fæculent matter. On the evening of the 12th five grains of calomel were administered, and three dark-coloured fæculent stools were passed; and on the following day three more of the same description, mixed with scybala, ℥ij. of castor-oil having been administered and retained on the stomach: was easy and comfortable throughout the day, and the food was not rejected. On the 14th the bowels acted three times, the stools being of the same description as above; vomiting was frequent, accompanied with urgent thirst, to relieve which large quantities of cold water were drank, and immediately rejected. In the evening the countenance became anxious, and the extremities cold; the pulse feeble; and he complained of great prostration and depression of spirits. White-wine negus, ammonia, and tinctura opii, were prescribed, and bottles filled with hot water to the extremities. From this period the vomiting became more urgent and frequent, in spite of remedies, until every thing was rejected immediately on being swallowed. Scanty scybalous stools were occasionally passed; his pulse became small and frequent; his strength failed rapidly; his countenance became haggard, with a dusky leaden hue, the eyes sinking in their sockets. Six and thirty hours preceding death there was total suppression of urine; the pulse was scarcely perceptible at the wrist; the hands and elbows became of a purple livid colour. A succession of fainting fits, accompanied with convulsions, preceded death, and he died convulsed on the morning of the 21st of March, being the fourteenth day from his admission into hospital.

Post-mortem examination, 24 *hours after death.*

Muscular development of the body remarkable. Little or no fat.

Abdomen.—Stomach enormously distended and thrown out of its natural position; its long axis was nearly vertical, with a slight inclination from the left side to the right. It occupied nearly the whole cavity of the abdomen, pushing the diaphragm up into the chest on the left side, and the intestines down into the pelvis, to such a degree that the transverse colon was situated immediately behind the pubes. It resembled in shape a kidney bean, its long axis measuring 12 inches; its transverse diameter below the pylorus, 8 inches; and above the pylorus, 6½ inches. The stomach contained six pints, by measure, of fluid, resembling in colour and consistence thick coffee, which extended upwards into the œsophagus, dilating it as far as the bifurcation of the trachea, where it was apparently constricted by the weight of the lungs. In addition to the six pints, about one pint of fluid escaped, on opening the stomach, the muscular coat of which, as well as of the œsophagus, was found to be hypertrophied, and the mucous membrane of the former thickened and congested. The fluid contents of the stomach could with difficulty, and in small quantities only, be pressed through the pylorus, which was surrounded by a dense carcinomatous growth, which corresponded to the tumor felt during life. The glands in the lesser omentum, and in the immediate vicinity of the mass, were invaded with scirrhus. The tumor involved the pylorus and the coats of the stomach for the distance of about an inch; it projected into the duodenum much in the same manner as the os uteri into the vagina; the opening into the stomach being central, and just large enough to admit a common quill. From the upper part of the stomach a mass projected downwards, so as to contract the pyloric orifice still more, and render the channel of communication tortuous; thus adding to the difficulty of the contents of this viscus passing out. I have added a diagram, representing the appearance of the parts, for which I am indebted to Mr. James Reid, of Canterbury, who was present at the post-mortem examination. (See next page.)


Tortuous passage leading from the stomach to the duodenum

A section of the growth exhibited in the upper part, towards the lesser arch of the stomach, a structure of semi-cartilaginous appearance and consistence, with numerous radiating striæ. In the lower part, and in the projecting mass, the consistence was less firm; softening, with ulceration, had commenced. At one point, a deep excavated ulcer, with everted and ragged edges, which had nearly perforated the stomach, was noticed; and, at another, a more superficial ulceration, with thickened edges: from the base of the deep ulcer numerous large blood-vessels were seen ramifying on the surface of the stomach. With the exception of a small portion of the duodenum in the immediate vicinity of the stomach, the whole intestinal canal was empty and contracted. The mesenteric glands were slightly enlarged, but were free from disease. The liver, spleen, pancreas, and kidneys, were healthy; the gall-bladder distended with bile; the urinary bladder empty and contracted.

Thorax.—Old pleuritic adhesions on left side in the neighbourhood of the heart. Pericardium firmly adherent over its whole extent, the cavity being completely obliterated. The heart was not enlarged or hypertrophied. The pulmonic and aortic valves were healthy and efficient. The auriculo-ventricular valves, as far as could be ascertained by the finger without opening the cavities, were efficient and not diseased. The aorta, besides one or two small atheromatous deposits, presented two rather large and one or two small patches of whitish thickening of its internal coat; the space occupied by one of these was indented, so as to form the commencement of a pouch large enough to admit the tip of the forefinger.

Lungs remarkably healthy, with the exception of two small clusters of tubercle—one at the apex of the right lung, the other in the middle lobe. The cluster in the apex consisted of eight or ten thickened cysts, containing small particles of cretaceous matter; whilst those in the middle lobe contained small hard deposits, which could not be broken by pressure between the finger-nails. Two small circular bodies, about the size of split peas, were found in the lower lobe of the right lung immediately beneath the pleura pulmonalis. Their section exhibited a thickened wall of a pearly white lustre, approaching to scirrhus in consistence, with a cavity in one instance containing a small cretaceous substance—in the other, a soft vascular body, attached by a pedicle to the walls, and on its surface numerous minute vessels were seen ramifying, by the aid of a common lens.

Head.—Slight thickening and opacity, with adhesions at several points, of the arachnoid, especially along the middle line and in the median fissure. Serous effusion, with congestion of the vessels of the pia mater; increase in the number and size of the red points in the section of the substance of the brain; adhesion of the choroid plexus and velum interpositum, and also of the plexus of the fourth ventricle, to the adjacent parts; a cluster of five or six granules, of a pale lemon colour and cartilaginous consistence, in front of the posterior commissure; the fluid within the lateral ventricles did not exceed the usual quantity; the substance of the brain was firm and normal throughout, without any traces of tubercular or carcinomatous deposit.

With regard to the cause of the adherent pericardium, the previous history of the patient showed that he had been in hospital in the year 1845, with pulmonic affection, caused by his horse falling upon him and injuring his chest, for which he was cupped over the region of the heart, in the vicinity of which the old pleuritic adhesions were situated. The man stated that he had never been subject to rheumatism; nor, to his knowledge, had he ever had any affection of the heart. That subsequent to his dismissal from hospital in 1845, he had not suffered from palpitation, shortness of breath, or any affection of the chest whatever. This statement appeared to be verified by auscultation during life, and the post-mortem examination. It is probable, however, that the pleuritic affection was complicated with pericarditis; but this could not be proved, the medical register containing the man's case having been handed over to the authorities in Dublin when the Greys left that station.

ALLEGED CURE OF HYDROCEPHALUS BY THE USE OF IODIDE OF POTASSIUM. BY DR. J. GUERARD.

On the 8th of February last, Mr. J. S. Perry sent in from his plantation to the doctor a coloured infant for medical treatment. The mother stated that her child was six weeks old, and had suffered severely during the month from cold, which resulted in an enlargement of the head. On examination, the head was found a third larger than natural, and the sutures were all widely patulous; the fissure commencing at the root of the nose, and extending up the median line of the os frontis to the anterior fontanelle, being an inch across. The fontanelle itself was capacious enough for three fingers. The coronal and sagittal sutures were also widely extended. The scalp covering these broad fissures was puffed and elastic to the touch, and indicated the presence of fluid beneath; dilatation of the pupils and strabismus, together with subsultus tendinum, and sudden screaming and tossing of the arms upwards, plainly denoting the nature of the little patient's affection. Also, the bowels were costive, and vomiting frequently occurred. This congeries of symptoms, so clearly evincing a case of hydrocephalus, determined my father at once to try the efficacy of the hydriodate of potass; cases of the undoubted disease having been recorded as cured by this potent drug in the American Journal. He accordingly ordered an ointment consisting of 25 grs. hyd. of potass to the ounce of lard, to be well rubbed over the whole head, twice in twenty-four hours. This to be gradually increased up to 40 grs. to the ounce. At the same time, a solution to be made by dissolving 20 grains of the hydriodate in ℥j. of rain water, and of this 10 drops to be given morning and evening. This treatment was continued up to the 3d March, and no amelioration of the disease occurring, blisters were now ordered to be applied to the cranium; first on one entire half and then on the other, and so alternating that one side of the head or the other was always under the influence of the epispastic. A couple of grains of the blue mass was likewise ordered twice daily, which kept the bowels in a tolerably active state. Very shortly after, symptoms of anasarca supervening, the unguent was directed to be rubbed over the thorax and the abdomen. And now appeared the crisis of the case, for *a vesicular eruption broke forth over the entire body*, the vesicles bursting and discharging pure lymph. From this critical discharge, the convalescence of the patient commenced, and the remedies being still continued, all the alarming symptoms gradually disappeared. About the middle of July, all remedial measures were discontinued, the case being considered as cured. The child was brought to town, and examined two weeks since, and although there was still some obliquity of vision, I thought I had never seen a healthier and more sprightly looking infant. The sutures were almost all filled up with ossific matter, except the broad space between the two portions of the os frontis, and also the triangular space of the anterior fontanelle; but in both of these there is a hard, bony deposit on the dura mater below, and the cavity will soon be filled up, although not to a level with the superficies of the cranium. The forehead will always be marked with a deep sulcus in the middle. But the absence of all serous effusion from the head, or other parts of the system, and all symptoms denoting pressure on the brain, show that the hydrocephalic affection has been entirely removed, and the cure of the little patient made certain.—*Am. Jour. Med. Sc.*

MEDICAL GAZETTE.

FRIDAY, JUNE 6, 1851.

Various circumstances have of late rather strongly directed the attention of the profession to the subject of Homœopathy, and its progress in making perverts from the ranks of the profession. The most extraordinary fact connected with this medical heresy is, that some who have been regularly educated as physicians or surgeons have had so little confidence in the principles and practice of medicine, that they have preferred joining the ranks of homœopathists to a persistence in a mode of practice based on sound experience and correct observation. Over these we suspect personal interest has had considerable influence in bringing about a conversion; for we cannot believe that a well-educated medical man, with an ordinarily logical mind, would ever become a Hahne*maniac* by mere force of reason. He may be puzzled or deceived, but not convinced. While we regret these desertions we cannot feel surprised; for it has ever been the history of delusions, however absurd, to enlist a certain number of supporters. Homœopathists are accustomed to argue that this kind of equivocal support is a proof of the truth of their doctrines: we look upon it, however, as furnishing a proof that the renegades have failed in the legitimate walks of medicine, and are desirous, for the sake of lucre, to give way to one of the grossest popular follies of the day. In a pamphlet recently published by Mr. Brodribb, this subject is handled with a skill which we do not often witness in controversial writing: facts are clearly and temperately stated, and the conclusion to be drawn from them respecting the unsoundness of all that admits of argument in homœopathic doctrines is irresistible.* In reference to proselytism, Mr. Brodribb justly remarks:—

"Almost any pretensions and novelties broached with confidence 'may strike and produce a temporary impression in their favour, especially in a country like this—a country proverbial for its credulity, and its more than Athenian rage for something new, whatever be the nature of it. In England, it has been said by a satirical yet just observer, that 'any monster will make a man,'—that is, be the means of rendering him renowned or rich. Who can question this for a moment, that has patience to mortify himself as a Briton by reflection and review? Take prodigies—dwarfs, giants, unnatural births, deformities—the more hideous, the more repelling the spectacles, the more attractive and popular have they always been. Take empiricisms: their name is Legion; from animal magnetism and the metallic tractors, down to the last infallible remedy for general or specific complaints,—all attested and recommended by the most unexceptionable authorities, especially in high life. How has learning been trifled with and degraded! Two or three insulated facts, and a few doubtful or convertible appearances, have been wrought up into a science; and some very clever men have advocated its claims to zealous belief, and contrived to puzzle the opponents they could not convince. What exemplifications may be found of religious absurdity and extravagance! Has anything been ever broached with confidence that has not gained considerable attention? Did not the effusions of a Brothers, who died where only he should have lived, in confinement for madness, secure numerous believers and admirers? Had he not defenders from the press? Did he not obtain the notice of a very learned senator in the House of Commons? And as to Joanna Southcote, the Exeter prophetess, without any one quality to recommend her but ignorance, impudence, and blasphemy; yet did she not make a multitude of converts, not only among the canaille, but among persons of some distinction? And had she not followers and defenders even among the clergy themselves? And is there nothing now going forward far exceeding in credulous wonder, arrogant pretension, and miraculous boasting, all that has gone before it, in a country which, in a twofold sense, may well be called 'a land of vision.'"

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* Homœopathy Unveiled. By W. P. Brodribb. London, Highley, 1851. An admirable and honest exposure of the absurdity of Hahnemann's doctrines. This pamphlet appears opportunely. It is well calculated to strengthen the wavering, and to show the depth of folly into which some professional renegades have allowed themselves to be plunged.

One fact is certain: there can be nothing in common between a regular medical practitioner and a homœopath. The two forms of practice cannot be associated by an honest man: they are perfectly incompatible and antagonistic. Any one, therefore, who has acquired a diploma as a surgeon or physician, and who subsequently practises homœopathy, is, *in foro conscientiæ*, clearly bound to surrender a title which he has disgraced, and to which he no longer has an equitable claim. In the religious perversions of the present time, no man of any sense of honour or principle retains the title and privileges of an English priest after he has adopted the ritual of Rome. Still less do we find a man acting at the same time as a Protestant and Roman Catholic priest! That, however, which a sense of decency prohibits in theological matters, passes current with the public in medical doctrines. To the disgrace of our profession, there are some men ready to suit their practice to the caprice and prejudices of their patients, and to administer pills or globules according to the fancy of those who consult them. If a sense of shame will not suffice to remove from the profession men who are guilty of this double dealing, we have every reason to believe that, under the new charters and powers to be granted by the Legislature, our Universities and Colleges will at once be able to cut off the offending members. In the meantime, we would call attention to the Resolutions of the Edinburgh College of Physicians, published in our last number.* While it has been formally declared by this College that no person practising or believing in the absurdities of homœopathy could be admitted to the Fellowship, it appears that some, after having been admitted in a different character, have damaged the reputation of the College by becoming homœopathic practitioners. What is this but acquiring a false position and spurious credit, and making use of an honourable title to practise a system of imposture and deceit which the College granting the title utterly repudiates? If the College have the power, we do not see why the names of those who have thus disgraced it should not be at once erased from the list. If not, we have no doubt that the new Medical Bill will confer such a power, not only upon this, but upon all other Colleges and Universities.

In the meantime, it behoves those who are won by the apparent success of homœopathic practice in certain cases of chronic disease, to examine how far the so-called remedies have been concerned, not in the cure, but in the recovery of the patient. The author of the pamphlet from which we have already quoted justly remarks:—

> "At the very threshold of our inquiry into the truth of homœopathy, we meet with assumptions so gross, and pretensions so extravagant, as to render investigation absolutely puerile and absurd. What would be thought, for instance, of a person who, on being gravely told that the sun is a body only three feet in diameter, and but a few miles distant from our earth, should think it necessary to apply himself seriously to the task of studying all the sophistries and ingenious arguments that might be offered in support of such an assertion?"

It is not our intention to discuss the homœopathic *laws* as propounded by Hahnemann. Our readers are aware that the whole system is speculative, hypothetical, and absurd to the last degree. As Mr. Brodribb observes,—Hahnemann lays down as so many principles and laws the wildest and most theoretical notions, and assumes as true, propositions which no amount of experiment can ever verify or establish.

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* Page 968.

Of the *similia similibus curantur* doctrine it may be remarked, that the beneficial action of most medicinal agents is secondary and only auxiliary to the powers of nature. But

> "such a power on the part of nature to restore health is denied by Hahnemann; and all attempts on the part of the physician to promote her efforts are condemned by him as mischievous. On the other hand, he says that the only true method of curing disease is by administering a medicine capable of producing an artificial one exactly resembling the original, and which artificial disease is to supersede and extinguish the other. But can homœopathic practitioners inform us what medicines will produce such complaints as pneumonia, croup, inflammation of the heart and its consequences, with many other equally dangerous diseases? A fair answer to this question would soon expose the hollowness of the system."

Again: it may be fairly asked,—

> "If each disease is to be cured by a medicine capable of exciting an artificial disease exactly resembling the original, what is the meaning of that host of dissimilar and opposite medicines directed to be given as remedies for each individual complaint? Hartmann, in his work on Acute Diseases, mentions no less than thirty-six remedies for pneumonia; fifty-two for rheumatism; twenty-nine for dysentery; twenty-one for diarrhœa; the majority of them being the same for each of these complaints. Surely, all this is a wide departure from the simplicity of the first law—"Similia similibus," &c., and cannot be regarded as a testimony of its truth." It must, indeed, be allowed that the inconsistent and contradictory character of such treatment is only apparent, since we find that all these dissimilar medicines are in reality reduced to the same level of nothingness by the infinitesimal doses in which they are given. When the billionth, quintillionth, or decillionth of a drop or of a grain of any medicine is given, it matters not what that medicine may be—whether it be opium or chalk, arsenic or ipecacuanha—since either of them, or any other, would be alike incapable of producing any effect whatever."

Although medicines are found by experience to vary in strength as well as in properties, the peculiarity of the homœopathic system is to lay aside any benefit from the knowledge of this truth, and, by adopting a uniform mode of preparation with sugar of milk, to cause all the alleged remedies to be made of the same dilutions and strength. Thus arsenic and soda, strychnia and charcoal, are or ought to be given by a consistent homœopathist in precisely the same doses.

In a case exposed in this journal a few years since, it was proved that a noted homœopathist had given to a patient, powders of sugar of milk alternately with powders containing dangerous doses of morphia mixed with calomel! As a general rule, homœopathists prescribe globules of the same weight and shape,—about seventy-five to a grain, and three or four of these to a dose, according to circumstances. Thus, whether arsenic or Cayenne pepper be prescribed, there is no difference in the size or weight of the globule; and if the two be mixed together in a box, it would be quite impossible to detect, by any chemical process, which contained arsenic. According to our observation, nothing of a *material* nature can be discovered in them except sugar of milk; and we are told by the ultra homœopathists that the remedial agent has actually become spiritualized by attenuation and succussion, and its potency thereby increased. To those who can accept this as a satisfactory explanation,—who therefore believe that such substances as strychnia and charcoal can be administered in the same doses, and that the agency of arsenic is never so potent as when you can find no trace of it in the substance administered,—we have nothing to say. They have reached a point in which the transition to the belief in the potency of amulets and charms is easy: the ranks of a scientific profession can lose nothing by their desertion.

But homœopathic practitioners appeal to the fact of the recovery of persons from disease while taking their medicines, and regard these events as cause and effect. We agree with Mr. Brodribb, however, that these are only additional instances of the influence of the mind over the body,—a subject which is admirably treated by Dr. J. C. Badeley in his lectures, now in course of publication in this journal. At page 42 of our last volume will be found the report of a case in which three genuine globules, taken knowingly by a female patient, were supposed to have produced a sound sleep of seven hours' duration; but when a similar dose was subsequently administered to her without her knowledge, no effect whatever was produced. These three globules weighed the 1-25th of a grain; they were labelled *nux vomica*, but contained nothing demonstrable excepting *sugar of milk!* Mr. Brodribb says:—

"I have often given to persons homœopathic medicines, but without their producing any effect. I have also repeatedly made trial of them on myself in the way mentioned by Dr. Mulan,—viz.; by taking some for several days together. I have taken daily for a fortnight some globules of rhus toxicodendron, varying in number from four to thirty. I have taken also for the same period globules of Nux vomica, of Aconite, of Pulsatilla, of Mercurius, and of Arsenic, and on each occasion without feeling the slightest effect whatever. Desirous of testing them as fairly as possible, I have requested homœopathic practitioners to give me any of their medicines, offering to take them in any dose, and for any length of time they pleased; but these offers have always been declined."

We have heard of a case in which a little boy was caught in the act of swallowing a whole boxful of some hundreds of these globules, which had been left on a table, and which he had mistaken for confectionary. The mother was horrified at the discovery that the child had swallowed such a large number, when two sufficed for a dose for herself; but she was perfectly reassured by the statement of her homœopathic adviser, that the peculiarity of his remedies consisted in the potency entirely disappearing when the dose was large!

We fully believe, with Mr. Brodribb, that the globules have no more effect than so many particles of starch or sugar; and, further, we defy homœopathic practitioners to prove that there is any medicine whatever, in any one globule, prepared *bonâ fide*, or that there is any demonstrable difference in any two globules labelled differently. A homœopathist, therefore, practises in the dark: his druggist supplies him with globules differently labelled: but he has no means of knowing whether he is really giving doses of medicine, or small particles of sugar of milk.

In leaving this subject for the present, we may remark that we hardly know who are more deserving of blame,—those grown-up members of society who patronize such a fraud as homœopathy, or those medical men who abandon the legitimate walks of the profession for the sake of pandering to prejudices which are based on ignorance or credulity.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 29th May, 1851:—George Edmund Smale, Plymouth—Francis Ayrton, Liverpool—Edward Somerset Cleveland, Madras—Thomas Lowrey Ridley, Newcastle-on-Tyne — Charles Rothwell, Bolton-le-Moors—George Henry Edwards, Royal Navy.

LECTURES
ON
TUMOURS,

Delivered in the Theatre of the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture II.

Simple or barren cysts—Their general characters and varieties—Modes of origin: (a) by expansion or enlargement of natural spaces or areolæ; (b) by dilatation of sacculi or parts of ducts; (c) by development and growth of new-formed nuclei or cells. Illustrations of the third mode of origin; in cysts in the kidney. Probable deduction concerning the origin of solid tumours.

Varieties of barren cysts:—Gaseous: Serous; in the neck, breast, gums, &c.: Synovial: Mucous; Nabothian, Cowperian, &c.: Sanguineous: Oleaginous: Colloid: Seminal.

The *Cysts*, or *Cystic Tumours*, to which I shall devote this lecture and the next, form a very numerous group, and have only or barely these characters in common —namely, that each of them is essentially a cyst, sac, or bag, filled with some substance which may be regarded as entirely, or for the most part, its product, whether as a secretion, or as an endogenous growth.

We may conveniently arrange cysts under the titles "simple" or "barren," and "compound" or "proliferous;" the former containing fluid or unorganised matter, the latter containing variously organised bodies.

Among the simple or barren cysts, of which I will speak to-day, we find some that contain a fluid like that of one of the serous membranes; such are certain mammary cysts, and those of the choroid plexus: some are full of synovia-like fluid, as the enlarged bursæ: others are full of blood, or of colloid, or some peculiar abnormal fluid: while others, forming the transition between the barren and the proliferous cysts, contain more highly organic secretions, such as milk, or mucus, or salivary or seminal fluid. These several forms we may arrange with names appropriate to their contents; as serous, synovial, mucous, sanguineous, colloid, salivary, seminal, and others.

Among the cysts, whether barren or proliferous, it is probable that at least three modes of origin may obtain. 1st. Some are formed by the enlargement and fusion of the spaces or areolæ in fibro-cellular or areolar or other tissues. In these spaces fluids collect and accumulate; the tissue becomes rarefied; and, gradually, the boundaries of the spaces are levelled down and walled-in, till a perfect sac or cyst is formed, the walls of which continue to secrete. Thus are produced the bursæ over the patella, and others; and to this we may refer, at least in some cases, the formation of cysts in tumours, and, perhaps, in other parts.

2dly. Some cysts are formed by dilatation and growth of natural ducts or sacculi; as are those sebaceous or epidermal cysts which, formed by enlarged hair-follicles, have permanent openings. Such, also, are certain cysts containing milk, that are formed of enlarged portions of lactiferous tubes; such the ovarian cysts formed by distended and overgrown Graafian vesicles; and such appear to be certain cysts formed of dilated portions of blood-vessels shut off from the main streams.

3dly. Many—and perhaps the great majority of cysts, such as those of the kidney, the choroid plexuses, the chorion, and the thyroid gland—are formed by the enormous growth of new-formed elementary structures having the characters of cells or nuclei, which pursue a morbid course from their origin, or from a very early period of their development.*

It might, on some grounds, be desirable to classify the cysts according to their respective modes of formation; separating the "secondary cysts," as those have been called which are derived by growth or expansion of normal parts, from the "primary," or, as they might be called, the "autogenous" cysts. But, at present, I believe, such a division cannot be made; for of some cysts it is impossible to say in which method they originate, and, in some instances, either method may lead to an apparently similar result. Thus, some sebaceous or epidermal cysts are clearly formed of overgrown hair-follicles; others are of distinct autogenous origin. Some ranulæ are probably formed by dilatation of the submaxillary duct, obstructed by calculi or otherwise; others by anormal development of distinct cysts, or possibly of a bursa between the muscles of the tongue.[*] Some cysts in the mammary gland are certainly dilated portions of ducts; others are, from their origin, anormal transformations of the elementary structures of the gland. But, in each of these cases, it may be impossible, when the cyst is fully formed, to decide what was its mode of origin—whether by growth of parts once normally formed, or by transformation of elementary and rudimental structures.

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* This third method of cyst-formation is wholly denied by Bruch (Henle and Pfeufer's Zeitschr. für rationelle Medizin, especially B. viii. p. 91). But the evidence of his papers is weak in comparison with that of the later publications by Rokitansky and Mettenheimer, and is not consistent with the cases of secreting and proliferous cysts. It is enough, however, to make one, in many cases, cautious in deciding, without special examination, whether the first or the third of the enumerated modes of formation have been observed.

Bruch refers to a paper by Engel, in the Zeitschr. der Wiener Aerzte 1846, Bd. i., which I regret to have been unable to read, but which seems, by his account, to contain much valuable information on both cysts and fibrous tumours.

Of the three modes of formation of cysts to which I have referred, the first two, namely, that which is accomplished by expansion of areolar spaces, and that by dilatation and growth of ducts or vesicles, scarcely need an explanation.[†]

But for the third method of formation a more detailed account is required; and this I will now endeavour to give.

The general structures of the cysts thus formed may be best studied in those that are so commonly found in the kidneys, or the mammary or thyroid gland, or in any instance of an ordinary serous cyst. Such a cyst, when large enough for naked-eye examination, is usually constructed of fine, well-formed fibro-cellular tissue, of which the filaments are commonly mingled with nuclei, or nucleus-fibres, and are variously interwoven in a single, or in many separable layers. The membranous walls thus formed are, in general, rather firmly connected with the adjacent parts, so that the cyst cannot easily be removed entire; and from these parts they derive the blood-vessels that usually ramify copiously upon them. They are usually, also, lined with epithelium, which, so far as I know, is always of the tesselated form, and may consist, according to Rokitansky, of either nuclei or nucleated cells.[*]

I am not aware that minute examinations have been made of the modes of earliest formation of any of the cysts of this kind, that are common subjects of surgical consideration; but there can be little doubt that, in their formation, they resemble the cysts of the kidney and other internal organs. In these organs the origin and progress of cysts have been profoundly studied by Rokitansky;[†] and I shall best describe them by giving an abstract of some of the observations which he has recently published. They confirm and greatly extend the results obtained by the similar investigations of Frerichs,[‡] and they fully establish the accuracy of the observations on the cystic degeneration of the kidney which were made by Mr. Simon,[§] to whom pathology is indebted for the first sure step in this rich path of inquiry. They may be repeated in almost any portion of a granular kidney containing cysts, or in a choroid plexus with cysts; but, I believe, the process may be best traced in the cystic disease of the embryonic chorion—the hydatid mole, as it has been called.[||]

In a portion of such a granular and cystic kidney, nests, as Rokitansky calls them, of delicate vesicles, from a size just visible to that of a millet-seed, may be seen imbedded in a reddish grey or whitish substance. These differ in size alone from the larger cysts to which one's attention would be sooner attracted; and, on the other side, it is simply in size that they differ from many much smaller. For if a portion of such a nest be examined with the microscope, one finds, together with the debris of the kidney, variously diseased it may be, a vast number of vesicles or cysts that were invisible to the naked eye. The most striking of these have a wall consisting of layers of fibres scattered over with curved nuclei, and are filled with granulated nuclei, or, more rarely, with round or polyhedral cells, some of which may contain a molecular or granular pigmental matter. In many of these cysts, the nuclei or cells are reduced to an epithelial lining of the cyst; and in some even this is absent, and the barren cyst is filled with a clear or opaline adhesive fluid.

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[*] See Fleischmann, in Schmidt's Jahrbucher, 1841, B. 32, and Frerichs, Ueber Gallert- oder Colloidgeschwülste, Göttingen, 1847, p. 37.

[†] Indeed, if it were not for some convenience in surgical practice, we should not retain most of the cysts thus formed in the list of tumours; for their growth appears, in most instances, to be due only to the accumulation of the contents of the obstructed tube or sacculus, being exactly adjusted to this accumulation, and commensurate with it. Thus it is in the cases of ranula with obstruction of the submaxillary duct, and the similar dilatations of the pancreatic duct; in the cystiform dilatation of the obstructed Fallopian tube; in the dilated hair-follicles; in bursæ; and in some others. These are all conventionally reckoned among cysts as arranged with tumours: but several of the like kind are never so reckoned; such as the cyst-like gall-bladder, dilated with thin mucus, when the cystic duct is completely obstructed; the dilatation of the uterus, filled with serum after closure of its external orifice; the distended sheath of a tendon; and others. Convenience and common usage have decided what cysts may be grouped with those which alone, we may anticipate, will be classed with tumours when pathology becomes more accurate and strict. Convenience alone, also, decides for the omission, from so vague a class as this, of the sacs or capsules that are formed round foreign bodies and solid tumours, and of the sacs that may be formed on the free surfaces of extravasated blood or inflammatory exudation.

[*] Rokitansky says (Ueber die Cyste, p. 4) there is often no epithelium in the larger cysts, and their "inner layer is a nucleated structureless or striated blastema, externally splitting into fibres in the direction of the long axis of the oval nuclei it contains." Epithelial cells, apparently altered so as to resemble very large exudation-cells, are commonly found in the tenscious contents of bursæ.

[†] Ueber die Cyste. Wien. 1850.

[‡] Ueber Gallert- oder Colloidgeschwülste.

[§] "On Subacute Inflammation of the Kidney," in the Medico-Chirurgical Transactions, vol. xxx.

[||] Mettenheimer, in Müller's Archiv. 1850.

From the size just visible to the naked eye, such cysts vary down to $\frac{1}{500}$th of an inch in diameter; and, together with these, are cysts whose walls (though their contents are like those of the others) consist of a structureless hyaline membrane: and these lie in a stroma which is equally simple, but seems to develop itself gradually into a fibrous structure circumscribing the cysts.

Moreover, one finds, in the same specimens, structures of the most various sizes, which, except in size, agree completely with the last-mentioned structureless vesicles, and show every grade of size down to that which is just larger than a nucleus. The smallest of these contain a clear fluid, or are slightly granulated: in the larger there is a central nucleus, and to this are added a second, a third, and a fourth nucleus, and so on till there appear several which fill up the commensurately enlarged vesicle. Now in such a nucleus seems to lie the nucleus of the history of development of these autogenous cysts, not in the kidney alone, but in any part in which they may occur. A nucleus grows to be a cyst, whether a simple or barren one, or one that has an endogenous production of nuclei, or cells, or any other structures. And, perhaps, in the same specimen, the earlier history of the nucleus itself may be traced; for one sees, together with the nuclei, still smaller corpuscles of all sizes, down to that of the elementary granule, so-called; and these, the larger they grow, the more are they like nuclei; so that, perhaps, the progress of the disease is from these granules, enlarging to the formation of nuclei, and thence pursuing some abnormal course.

It would be tedious now to trace, from this general sketch of their origin, all the phases through which such cysts may pass. Rokitansky has done it amply. We have here the elementary constituents. But the simple cyst-wall is capable, not only of growing, but of acquiring, by appropriation and development of surrounding blastema, the laminar and nucleated fibrous tissue, which we find in its full estate; acquiring these, we may presume, just as, more normally, the simple membranous wall of a new blood-vessel acquires, as it grows, the nuclei and fibrous tissue that belong to its more perfect state. Such might be the least abnormal course of any cyst: but from this it may deviate; thickening, acquiring continually new layers, calcifying, and in other ways showing the signs of degeneration or disease. The contents, also, of the cyst may assume even yet more various forms: to name only the extremes—they may retain the simple state of liquid; or with liquid there may be a simple, or a specially secreting, epithelial layer; or the contents may acquire the structure of well-organised glands, or cancer, or some other tissue; and between these extremes, according to conditions which we have no power to trace or explain, they may pass in any of the manifold ways of wrong, the ends of which I shall have to describe.

Important as the history of cysts may be in its direct bearings, yet these are not all that we may observe in it. In their history I cannot but think we may discern an image of the first form and early progress of many innocent solid tumours also. For, as the cyst is traced from the mere nucleus, or even from the granule, onwards to its extreme size or complexity of structure or contents, so, it is very probable, from the numerous correspondences between them, that these solid tumours also have a similar beginning in some detached element, or tissue-germ, or in some group of such germs, which, in their development and growth, may coalesce, and then may appropriate, or exclude for absorption, the intervening substance.

Thus, in the form of erring nuclei, we may, I think, almost apprehend the structural origin of these cysts and tumours; yet, if we may, the question still remains whether the elementary structures in which they begin be some new and special morbid elements, or some natural rudimental structures perverted from their normal course. Rokitansky, in his explanation of the cyst-formation, implies that the cyst is derived from a new element. Mr. Simon, speaking of the cysts of the kidney, regards them as "vesicular transformations of the ultimate structure of the gland;" and to this view, without adopting some ingenious suppositions which he has connected with it, I would adhere. For, unless a cyst or a solid tumour (assuming this mode of their origin to be correct) were really a transformation of a nucleus, or a cell, of the part in which it grows, we could not understand the very general similarity that we find, between the contents of certain cysts and the secretions or structures of the glands in or near which they occur; nor yet the likeness which commonly exists between the solid tumour and the tissue in which it is imbedded. These things are as if the first beginning of the abnormal growth were in some detached element of the natural tissue, which element, being perverted from its normal course, thenceforward multiplies and grows, conforming, in nearly all cases, with the type, in minute structure and composition, but more and more widely deviating from it in shape and size.

Such are the facts, and such the speculations that we may entertain respecting the origin, or, at least, the smallest visible beginning, of a cyst or an innocent solid tumour. Need I add that if even this be true, we are yet far from the explanation of the cardinal point in the pathology of tumours — their continual growing. Why should these detached tissue-germs, or any less minute and less isolated portion of an organ, grow while all other germs and parts that are most like them remain unchanged? I have already confessed my ignorance.

I will endeavour now to illustrate the histories of particular forms of the simple or barren cysts.

1. The first that may be enumerated are GASEOUS CYSTS. I know, indeed, concerning them only the specimens placed by Hunter in his museum;* but these should be admired, or almost venerated; for their histories include the honourable names of Hunter, of Jenner, and of Cavendish. Mr. Hunter says of them,—"I have a piece of the intestine of a hog, which has a number of air-bladders in it."......"It was sent to me by my friend Mr. Jenner, surgeon, at Berkley, who informed me that this appearance is found very frequently upon the intestines of hogs that are killed in the summer months."......"Mr. Cavendish was so kind as to examine a little of this air; and he found 'it contained a little fixed air, and the remainder not at all inflammable, and almost completely phlogisticated.'"†......

What a relic have we here! Surely, never, on an object so mean to common apprehensions, did such rays of intellectual light converge, as on these to which were addressed the frequent and inquiring observation of Jenner—the keen analysis by Cavendish—and the vast comparison and deep reflection of John Hunter! Surely, never were the elements of an inductive process combined in such perfection! Jenner to observe; Cavendish to analyse; Hunter to compare and to reflect!

2. The SEROUS CYSTS are, of all the order, the most abundant. Their most frequent seats are, by a hundred-fold majority, in or near the secreting glands or membranes, or the so-called vascular glands; but there is scarcely a part in which they may not be found. Their frequency in connection with secreting structures has led some to hold that they are all examples of perverted epithelial or gland-cells; but their occurrence in such parts as bones and nerves, among deep-seated muscles, and in fibrous tumours, makes it sure that they may originate independently of gland-cells;* though why any element of a solid tissue should retain the vesicular form which it has in its germ-state, and in that form grow, we cannot tell.

Of this numerous group of serous cysts, however, I will speak at present of only such as may best illustrate their general pathology, and are of most importance in surgical practice; and I will, to those ends, refer chiefly to the cysts in the neck and in the mammary gland.

Single serous cysts in the neck form what have been called "hydroceles of the neck," and are well exemplified by a specimen in the museum.† This is a single oval cyst, with thin, flaccid, membranous walls, and even now, after shrinking, measures more than six inches in its chief diameter. It was successfully removed by Mr. Thomas Blizard from between the platysma and sterno-mastoid muscles; and a part of it is said to have passed behind the clavicle. It was filled with a clear brownish fluid.

Such cysts, but various in size and other characters, are more apt to occur in the neck than in any other part of the body. Many are single cysts like this; but others are complex, having many cavities, whether separate or communicating; and some consist of very numerous cysts,—even of

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[*] Museum of the Coll. of Surg., No. 153 4.

[†] See Hunter's Works, vol. iv. p. 98, and Description of Pl. xxxvii.

[*] Some very interesting specimens of serous cysts in bones are in the museum of St. George's Hospital. They are described by Mr. Cæsar Hawkins, in his lectures on Tumours in the MEDICAL GAZETTE, vols. xxi. xxii.; and in a Clinical Lecture in the same, vol. xxv. p. 472. There are also some remarkable specimens of cysts in the antrum, in the museum at St. Thomas's Hospital, prepared by Mr. Wm. Adams, who showed them to me.

[†] Mus. Coll. Surg. 146. Many well-marked examples of the disease in all its forms are recorded by Mr. O'Beirne (Dublin Jour. of Med. and Chem. Sc. vol. vi. p. 834); Mr. Lawrence (Med.-Chir. Trans. vol. xvii. p. 44); Mr. Cæsar Hawkins (Med.-Chir. Trans. vol. xxii. p. 281); Mr. Liston (Practical Surgery, p. 330, ed. 1846); and others. A monograph by Wernher (Die angeborenen Cysten-Hygrome; Giessen, 1843) is referred to by Bruch, l. c., but I have not been able to see it.

hundreds, clustered in one comparatively firm mass.

In situation, too, they are various. In some cases they lie in the front of the neck; in others, at one or both sides: they may lie by the lower jaw, over the parotid, by the clavicle, or anywhere in the mid-spaces. And in any of these situations they may extend very deeply among the constituent structures of the neck. Their date of origin is often obscure. In many—perhaps in the majority of cases—they appear to be congenital; but they may be first observed at any later period of life. Last year Mr. Lawrence removed a collection of four large cysts from over the parotid gland and mastoid region of a man, twenty-eight years old, who had observed their beginning seven years previously. Three of these were filled with serum—one with pus.

Of course, in such a variety of forms there must be more than one kind in the group of cysts that are thus, for mere convenience, placed together. The variety of origins, indeed, to which cysts in the neck may be traced, gives them peculiar interest in relation to the general pathology of cysts.

Some are evidently connected with the thyroid gland; though, being singly developed, and growing to a very large size, their relation to it may be at length obscured, and they may appear, during life, quite isolated. Such an one is here.* A woman, between twenty and thirty years old, was under Mr. Vincent's care, in St. Bartholomew's Hospital, in July 1841, with a tumour in the front of her neck as large as the head of a child two years old. The tumour contained fluid, which was twice withdrawn with a trocar. At the first time the fluid looked like serum, but coagulated spontaneously; at the second, it was mixed with blood. After the second operation the cyst inflamed and discharged grumous and sanious pus; but it also enlarged quickly, and the patient died unexpectedly, and rather suddenly, suffocated.

The preparation displays a cyst occupying nearly the whole right lobe of the thyroid gland: its walls are nearly two lines in thickness; its cavity was full of lymph, pus, and blood; and the sudden death was due to a discharge of a great part of its contents into the pharynx and larynx, through an ulcerated aperture into the former.

Besides these cysts which lie within the thyroid gland, some that lie near to it are very probably of the same nature—cysts formed in some outlying portion of the gland, such as I referred to in the last lecture. But of this mode of origin we can scarcely have a proof when the cyst is fully formed and largely grown.

Other of these cysts in the neck appear to be transformations of vascular tumours—*i. e.* of erectile vascular growths or nævi. I shall refer to this point again: it is made probable by the close connection which some of these cysts have with large, deep-seated veins; by the occasional opening of blood-vessels into their cavities; and by their sometimes distinctly forming portions of vascular nævi. Thus, a child, three and a half years old, was under Mr. Lawrence's care two years ago, in St. Bartholomew's Hospital, with a tumour covering the greater part of the left side of the neck, and the lower part of the cheek. Such a swelling had existed from birth, but it had of late enlarged very much. It was composed of a cluster of close-set cysts, containing coagulable fluid; but at its upper part a firmer portion of its mass consisted of a collection of tortuous and dilated blood-vessels, like those of a nævus. The examination made of it, by Mr. Coote,* after its removal, was such as to leave little doubt in his mind that it had origin in or with a nævus growth; and other cases, to which I shall refer in speaking of erectile tumours, have confirmed this view, especially some of those which are published by Mr. Hawkins.

But when we have separated all the serous cysts in the neck that may be referred to these two sources, there will probably still remain many that we can assign to no such mode of origin, and which at present we must class among primary or autogenous cysts, independent of any secreting structure.

Among these are some with fluid contents of peculiar viscidity—ropy, or honey-like, and deriving a peculiar aspect from including abundant crystals of cholestearine. Such contents may occur, perhaps, in any cyst in the neck or elsewhere; but they appear to be comparatively frequent at or near the front of the larynx. Here is such a cyst,† attached to the hyoid bone of a sailor, between fifty and sixty years old, in whom it had existed nearly as long as he could remember. It contained a brownish-yellow, grumous, honey-like fluid, with abundant crystals of cholestearine.

Last year Mr. Lawrence had, at St. Bartholomew's Hospital, a patient, thirty-five years old, on the left side of whose neck, directly over and closely attached to the thyro-hyoid membrane, was a smooth oval tumour, about an inch in length. He had observed a regular increase of this tumour for five or six years; but its bulk and deformity alone were inconvenient. Mr. Lawrence freely cut into it, and let out a thick honey-like fluid, in which large groups of crystals of cholestearine were visible even with the naked eye. The cyst, after the incision, suppurated, and then the wound healed, and the patient left the hospital quite well.

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* Museum of St. Bartholomew's Hospital, Ser. xxii. 16.

* Lecture, by Mr. Lawrence, in the Medical Times, November 30, 1850.

† Mus. Coll. Surg. 148. The cysts which Müller describes under the name of cholesteatoma are quite different from these, and will be noticed with the cutaneous cysts in the next lecture.

I may add that such cysts as these are not uncommon near the gums, lying usually beneath the reflection of the mucous membrane from the gum to the cheek. Their occasional large size, and their thick walls obscuring the sense of fluctuation, may make them at first look formidable. A woman, thirty-eight years old, was under my care last September, in whom, at first sight, I could not but suppose something was distending the antrum, so closely was the deformity of the face due to such diseases imitated. But the swelling was soft and elastic, and projected the thin mucous membrane of the gum of the upper jaw, like a half-empty sac. I cut into the sac, and let out nearly an ounce of turbid brownish fluid, sparkling with crystals of cholestearine. The posterior wall of the cyst rested in a deep excavation on the surface of the alveolar border of the upper jaw,—an adaptation of shape attained, I suppose, as the result of the long-continued pressure of the cyst, which had existed six years.

At nearly the same time a young man was under my care with a similar swelling of larger size, which he ascribed to an injury of the gum or alveolar border of the upper jaw only six months previously. In neither of the cases could I find any disease of the maxillary bone; but I believe it sometimes exists in intimate connection with these cysts.

In no organ is the formation of cysts more important than in the mammary gland. Every variety of them may be found here: but I will speak at present of only the serous cysts.

Some of these cysts are dilated ducts, or portions of ducts grown into the cyst-form. During lactation, cysts thus derived may be filled with milk, and may attain an enormous size, so as to hold, for example, a pint or more of milk.[*] In other cases they may contain the remains of milk, as fatty matter, epithelial scales, &c.; or they may be filled with transparent watery fluid, without coagulable matter;[*] but much more commonly they contain serous fluid, pure, or variously tinged with blood or its altered colouring matter, or with various green, or brown, or nearly black fluid.[†]

The complete proof of the origin of some of these cysts as dilated portions of ducts, is, that by pressure they may be emptied through the nipple, or that bristles may be passed into them from the orifices of tubes. But although these facts may be often observed, yet I agree with Mr. Birkett in thinking that the majority of cysts in the mammary gland are formed in the manner of the renal cysts, to which, indeed, they present many points of resemblance.

The most notable instances of mammary cysts are those in which the whole of the gland is found beset with them. This may occur while the proper substance of the gland appears quite healthy;[‡] but I think it is more commonly concurrent with a contracted and partially indurated state of the gland,—a state which, independent of the cysts, appears similar to cirrhosis of the liver, and has, I think, been named cirrhosis of the mammary gland. Its coincidence with cysts proves its nearer relation to that shrivelled and contracted state of the granular kidney with which the renal cysts are so commonly connected; or, perhaps, more nearly to the shrivelled, indurated state of the lung that may coincide with dilatation of the bronchi.

The cysts in these cases are usually of small size, thin-walled, full of yellow, brown, green, and variously deep-coloured fluids,—fluids that are usually turbid, various in tinge and density, but not usually much denser than serum. They do not lie in groups, but are scattered through, it may be, the whole extent of the gland. Similar small cysts are sometimes found in connection with hard cancer of the breast; and in this case they have been called by Mr. Hunter and others "cancerous hydatids:" but their proper relation in such cases appears to be, not with the cancer, but with the coincidently shrivelled gland.

In this disease of the mammary gland there is no reason to believe a malignant nature, though the coincidence with cancer appears not rare. Yet the diagnosis between it and cancer is not always clear, and many breasts have been removed in this uncertainty. I saw such a case two years ago. A woman, 50 years old, had, in her left breast, just below the surface of the mammary gland, a small smooth, oval, and moveable tumour. It felt firm, but not hard; but, external to it, in a line extending towards the axilla, were two or three small round "knots," scarcely so large as peas, and quite hard. In the axilla was an enlarged gland. The breast was soft, flaccid, and pendulous. The tumour was sometimes painful, and a serous and bloody fluid often flowed from the nipple. The patient's youngest child was sixteen years old, and the tumour had been noticed six months, having arisen without evident cause. There was doubt enough about the diagnosis of this case to suggest that the tumour should first be cut into. An incision exposed the cavity of a cyst full of dark turbid greenish fluid, and near it many more cysts. Similar cysts pervaded the whole extent of the gland, and the whole breast was therefore removed. Many of the cysts communicated with lactiferous tubes, from which bristles could be passed through the nipple.[*]

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[*] See a case by M. Jobert de Lamballe, in the Medical Times, Jan. 4, 11, 1845, and a collection of cases by Mr. Birkett, in one of which ten pints of milk were evacuated (Diseases of the Breast, p. 200).

[*] Brodie, Lectures on Pathology and Surgery, p. 155.

[†] Their various contents are well shown in Cooper's Illustrations of Diseases of the Breast, pl. I.; and a full account of all the diseases of this class is given by Mr. Birkett in his work already cited.

[‡] Two such cases are described by Sir B. C. Brodie—Lectures on Pathology and Surgery, p. 139.

In this case one comparatively large cyst existed, with many of much smaller size. In more usual cases one cyst has a yet greater predominance over others, or even exists alone. Sometimes, in such instances, the removal or laying open of one large cyst has been sufficient; but in some, smaller cysts neglected have enlarged, and the disease has appeared to recur.[†]

The single cysts of the mammary gland may become enormous. I know not what boundary may be set to their possible size; but I find one case in which nine pounds of limpid "serosity" were produced in three months, in the breast of a woman thirty years old.[‡] In this case the walls of the cyst were thin, and the fluid serous; and the fact illustrates a general rule, that the cysts which contain the simplest fluids, and which have the simplest walls, are apt to grow to the largest size: thickenings of cyst walls, and, much more, their calcification,[§] are here, as elsewhere, signs of degeneracy, and of loss of productive power.

It would appear as if any cyst of the mammary gland might, after some time of existence in the barren state, become prolific, and bear on its inner surface growths of glandular or other tissue. But of these proliferous cysts I will speak in the next lecture.[*]

3. Of **Synovial Cysts** I need say very little. Under the name may be included all the anormal bursæ, or ganglions, as they are called. In these, again, two methods of formation probably obtain. Some, of which the best example is the bursa over the patella and its ligament, are merely enlargements, with various transformations, of bursæ naturally existing. Not materially different from these are the bursæ which form anew in parts subjected to occasional localised pressure, and which appear to arise, essentially, from the widening of spaces in areolar or fibro-cellular tissue, and the subsequent levelling or smoothing of the boundaries of these spaces. But others, such as the bursæ or ganglions which form about the sheaths of the tendons at the wrist, appear to be the cystic transformations of the cells inclosed in the fringe-like processes of the synovial membrane of the sheaths. The opportunities of dissecting these are rare: but I believe there is a close resemblance, in mode of formation, between them and the cysts of the choroid plexus. Rokitansky has shown that these are due to cystic growth in the villi appended to the margins of the plexus, which villi are very similar, in their constituent structures, to the processes of the synovial fringes. And the probability of similar origin is enhanced by the likeness of the contents of the cysts, in both cases, to the fluids secreted by the fringes in the normal state.

4. Under the name of **Mucous Cysts** we may include all such as are formed in connection with simple mucous membranes, or with glandular structures which we call mucous, while we know no other or peculiar office served by their secretions.

There may be many cysts of this kind; but the best examples appear to be those that may be named *Nabothian* and *Cowperian* cysts. The former probably originate in cystic degeneration of the glands of the mucous membrane about the cervix uteri. Protruding, either alone, or with polypoid outgrowths of the mucous membrane, they are observed successively enlarging, then bursting and discharging their mucous contents, and then replaced by others following the same morbid course. Or, instead of clusters of such cysts, one alone of larger size and simpler structure may be found.*

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[*] In the Museum of the Middlesex Hospital is a breast from a woman in whom both mammary glands were thus diseased. In the College Museum, Nos. 151 and 153 best illustrate the disease.

[†] Sir B. C. Brodie, loc. cit. p. 146, note

[‡] Case by M. Marini, cited by M. Bérard, "Diagnostic différentiel des Tumeurs du Sein," p. 86.

[§] For a case in which the walls of a cyst in the breast were calcified, and crackled like those of ossified arteries, when pressed, see Bérard, loc. cit. p. 56.

[*] Having in view only the illustration of the more general pathology of these cysts, I have not referred to more special instances of them. Examples enough are to be found in all the works here quoted. Neither have I mentioned any analysis of the contents of serous cysts; for few have been made, and these few were made on such various materials, that no general account of them can be rendered. Several are cited in Simon's Medical Chemistry; and in Frerichs' Ueber Gallert- oder Colloid-Geschwülste, p. 7-9, &c.

The Cowperian cysts appear to be connected with the Cowper's or Duvernoy's glands in the female. Whether arising from dilatation of the duct, or from cystic transformation of the elementary structures of the gland, cannot be yet stated; but, in the exact position of the Cowper's gland, and projecting into the vagina near its orifice, a cyst is often found, of regular oval shape, thin walled, of uncertain size, but growing sometimes to the capacity of a pint. Commonly the contents of such a cyst are a colourless, pellucid, or opaline ropy fluid, like that found in the closed-up gall-bladder. But from this they often vary. I have seen the contents of such cysts like the ink of the cuttle-fish, like the fluid of melanotic tumours, and like thick turbid coffee; or, to the sight, they may exactly resemble fluid fæcal matter.† Moreover, these cysts are very apt to inflame and suppurate. Many abscesses projecting into the vagina have in these their origin; and the treatment these abscesses receive, by free incision, is, I believe, appropriate for the cysts under all conditions.

It is not apparent upon what the varieties in the contents of these cysts depend. The only instances that I could minutely examine were the two following. In the first, a woman, 25 years old, under the care of Dr. West, had a smooth oval swelling in the lower and fore part of the right labium, nearly an inch in diameter. This had been observed slowly increasing for six years, and had commenced three months after parturition. It was not painful. I punctured it, and let out about three drachms of pellucid fluid, like mucus, or the white of egg. The cyst had a polished white internal surface, and the fluid contained numerous corpuscles, like very large white blood-corpuscles, and like such as are commonly found in the tenacious fluid of bursæ. The cyst closed on the healing of the wound.

In the other case, the patient was 45 years old, and under the care of Mr. Stanley. The tumour was nearly regularly oval, occupying the whole length of the right labium, and obstructing the vagina. She had observed it increasing for four years: it was painless, but had been often struck. A free incision gave issue to about fourteen ounces of thick, inodorous, dark brown fluid, like turbid coffee. The walls of the cyst were about one-third of a line thick, tough, compact, and closely connected with the surrounding tissues. Mr. Abernethy Kingdon, who examined the contents, found abundant molecular matter, and granule-masses, together with groups of cells, apparently resembling epithelial cells of various sizes.

5. The **Sanguineous Cysts**, or cysts containing blood, are, probably, in many instances, very nearly related to the serous. Some may be explained by an accidental hæmorrhage into the cavity of a serous cyst; an event corresponding with the transformation of a common hydrocele into an hæmatocele. The contents of some of these cysts are, indeed, just like those of an hæmatocele; with fluid, and coagulated, and variously decolorized blood.* But some cysts appear, from their origin, to contain blood; and this blood, I think, always remains fluid till it is let out, while that which collects by hæmorrhage into a serous cyst is generally partially or wholly coagulated. Some of these cysts with blood are found in the same positions and circumstances as the serous. Thus, in the neck, a series of cases of blood-cysts might be collected, exactly corresponding with the serous cysts in that part, and, like them, probably derived from various origins, some lying in the thyroid gland, some near it, some traceable to connection with vascular nævi, some of proper origin.

Of the last class one appeared to be, which was in St. Bartholomew's Hospital several years ago, and of which a drawing, made at the time, shows the general characters. A lad, about 16 years old, was under Mr. Stanley's care, with a large, oval, and somewhat pendulous swelling in the left side of the neck, which had existed many years, and appeared merely subcutaneous. It was punctured, and about sixteen ounces of fluid blood escaped, which soon coagulated. After this the cyst closed,—a result more favourable than may generally be anticipated from such simple treatment.

In the parotid gland, also, cysts containing fluid blood have peculiar interest. Nearly two years ago I assisted Mr. Stanley in the removal of one, which lay quite within the parotid of a gentleman about

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* A remarkable example of a cyst thus, I suppose, originating, is in the Museum of the Middlesex Hospital.

† As in a case related by Mr. Cæsar Hawkins in his Lectures, Medical Gazette, vol. 24; and in two cases by Lebert, Abhandlungen, p. 109.

* Such hæmorrhages are frequent in cysts of the thyroid gland (Frerichs, Rokitansky; Museum of the College of Surgeons, 1502). Thus, also, we may explain the hæmatoceles of the spermatic cord, as in Mus. Coll. Surg, 2400; and Museum St. Bartholomew's, Ser. 28, 11.

40 years old. It had been for some years increasing in size, and lay beneath some branches of the facial nerve, from which the need of separating it without injury made its removal very difficult. This, however, was accomplished, and the patient remains well.

At nearly the same time, a man, 25 years old, was under my care with a similar cyst, which had been increasing without pain for two years. It lay in the parotid, but very near its surface. I punctured it, and evacuated two or three drachms of bloody-looking fluid, with some grumous and flocculent paler substance intermingled. This fluid coagulated like blood, and contained blood corpuscles, much free granular matter, crystals of cholesterine, and what appeared to be white corpuscles of blood acquiring the character of granule-cells. The cyst filled again with similar fluid after being thus evacuated. I therefore dissected it from the parotid gland, and the patient recovered.

Occasionally, one meets with sanguineous cysts, which derive a peculiar aspect from a columnar or fasciculated structure of their interior, making them look like the right auricle of a heart. This was singularly the case in one which I assisted Mr. Macilwain to remove from over the lower angle of the scapula of a lad 15 years old. It had existed more than eight years, and grew rapidly while, in the last year, he was actively at work. It was now also painful. It felt like a fatty tumour; but proved to be a cyst thus fasciculated like an auricle, with a finely polished internal surface, and containing about an ounce and a half of liquid blood. Its walls were from one to two lines in thickness, and seemed in great part made up of small cells, such as one sees in a bronchocele, full of serous and bloody-looking fluids. No trouble followed the operation; and the patient was well for at least seven years after it.[*]

A cyst presenting the same peculiarity of internal surface was removed by Mr. Stanley, in October 1846, from over the pubes of a boy 18 years old. It was observed increasing for nine months, and part of it, consisting of a simple thin-walled serous cyst, was transparent; but behind, and projecting into this, was a more thickly walled cyst, containing about a drachm of dark liquid blood, and on its surface fasciculate and polished like an auricle. Its walls were well defined, formed of fibro-cellular tissue imperfectly filamentous and nucleated; and I could find no epithelium lining in it. The operation was successful.

It is not improbable, I think, that both these cases may have had their origin in vascular nævi, like other cysts containing blood, to which I shall refer in speaking of erectile tumours. I will now only refer to certain cysts which, without any erectile formation, appear to be derived from portions of veins dilated, and thus obstructed and shut-off from the stream of blood. Such an one was removed by Mr. Lloyd, many years ago, from a man's thigh. It lay in the course of the saphena vein; but neither that, nor any other considerable vein, was divided in the operation, or could be traced into the cyst. This cyst[*] was of spherical form, about an inch and a half in diameter, closed on all sides; its walls were tough, and polished on their inner surface; it was full of dark fluid blood, and its venous character was manifested by two valves, like those of veins, placed on its inner surface. On one of these a soft lobed mass, like an intra-cystic growth, is seated.[†]

6. Cysts containing oil or fatty matter, without any more highly organized substance, are very rare. Many contain fatty matters mingled with serous, epithelial, and other substances; but in these the fatty constituent is probably the result of the degeneration of the other contents. Some, however, appear to contain fatty matter alone. Mr. Hunter preserved a specimen[‡] of what he marked as "oil from an adipose encysted tumour." It was taken, I believe, from a cyst that grew "between the bony orbit and the upper eyelid" of a young gentleman. When recent, it was described as "pure oil, perfectly clear and sweet, which burnt with a very clear light, and did not mix with aqueous fluids, and, when exposed to cold, became as solid as the human fat."

Lately Mr. Wormald removed a small cyst from a woman's breast, the contents of which appeared to be pure oily matter, that congealed into a substance like lard, and contained crystals of margarine, but no organized corpuscles.

7. Colloid Cysts are at present a very ill-defined group; the term "colloid" being used by Frerichs,[§] and other recent German writers, for all those morbid materials that are pellucid, jelly-like, flickering, half-solid, or more or less closely resembling the material found in gelatiniform, alveolar, or colloid cancer. Such a material is common

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[*] The cyst is in the Museum of St. Bartholomew's, ser. xxxv. 38.

[*] Museum of St. Bartholomew's Hospital, Appendix 10.

[†] In the Museum of King's College is a large cyst removed from a thigh, into which it is said the saphena vein opened.

[‡] Mus. Col. Surg., 181, Pathological Catalogue, vol. iv. p. 177.

[§] Ueber Gallert- oder Colloid-Geschwülste.

in the cysts of bronchoceles, and in those of the kidneys, especially, I think, in those which are not associated with contraction of the renal substance, and which Baillie, and other writers of his time, described as hydatid disease of the kidney.

The contents of these cysts may present the most diverse conditions; may be of all densities, from that of dilute serum to that of a firm jelly; may range between pellucidity and the thickest turbidness; may be of all hues of yellow, olive-green, orange, brown, pink, and nearly black. The thick and pellucid contents of such renal cysts are enumerated as examples of colloid matter,—so are the contents of ranulæ, and of many bursæ; but the type is the material of the so-called colloid cancer. This, however, is beyond the range of the present course of lectures; and I shall pass by it, referring to the already cited works of Frerichs and Rokitansky, and to that of Bruch,[*] for the best information yet supplied.

8. The last group of cysts of which I shall now speak includes such as contain secreted fluids, like those of the glands, by the dilated ducts or transformed elements of which they are formed. Such are the cysts in the breast that contain milk, and probably many instances of ranula. The origin of the former is, probably, in dilatation of lactiferous ducts; that of the latter is uncertain. But the examples of this group, of which I wish more particularly to speak, are the seminal cysts, including under this name those that are usually called encysted hydroceles, or hydroceles of the spermatic cord. Their various forms are fully described by Mr. Curling;[†] and are well illustrated by specimens in the Museum of the College.[‡] They are usually thin-walled spherical or oval cysts, imbedded in, and loosely connected with, the tissue of the cord. Their most frequent seat is just above the epididymis, but they may be found in any part of the spermatic cord. Their walls are formed of fibro-cellular tissue, and they may be lined with delicate tesselated epithelium. Their contents are usually a colourless slightly opaline fluid, like water with which a little milk has been mingled.

The discovery was made at the same time and independently by Mr. Lloyd and Mr. Liston,[§] that the fluid obtained from these cysts usually contains the seminal filaments or spermatozoa. Repeated observations have confirmed their discovery; and both the existence of these bodies, and the usual characters of the fluid, justify the speaking of it as a diluted or imperfect seminal fluid, and, therefore, of the cysts as "seminal cysts."

It was my lot, I believe, first to dissect some of these cysts;[*] and I found that they had no open communication or other connection with any part of the secretory apparatus of the testicle, and that their relation to the epididymis, on which they lay, was such as to forbid the supposition of the seminal secretion being transmitted to them from the tubes. I suggested, therefore, that these cysts were formed quite independently of the tubes; and that, being seated near the organ that naturally secretes the semen, they possessed a power of secreting a similar fluid; just as cysts beneath the hairy parts of the body may produce hair and epidermis, and the ordinary products of the skin. The explanation was, I believe, deemed unsatisfactory; but it is supported by the later investigations of other cysts, especially of those to which I have already referred, growing in the thyroid and mammary glands. While we find that perfect gland-substance may grow from the walls of these, it cannot seem singular if, in a cyst lying near the testicle or its duct, materials like the secretion of the testicle should be formed. The growth and nutrition of gland-tissue, and the formation of gland-secretion, are so nearly parallel processes, that the proof of the former occurring in one group of cysts removes all improbability from the belief that the latter may occur in another group.

If, then, we may regard these seminal cysts as autogenous, and may arrange them with those of the kidney and other glands, which are derived from the transformation and over-growth of isolated nuclei or cells, they may supply some facts of interest to the general pathology of cysts. Especially we may observe that in different specimens of these "hydroceles of the cord," or in the same at different times, the contents may be either a seminal fluid or an ordinary serous fluid. In one of the cases in which I dissected a seminal cyst, there existed, besides that which contained seminal fluid, another larger cyst, above and separate from the testicle and tunica vaginalis; but this contained only serous fluid like that of a common hydrocele. Now this diversity is common among cysts. Those in the kidney may contain the materials of urine, but they more commonly do not; those of the lactiferous tubes may contain either milk or some form of serous fluid; ovarian cysts may at one period produce hair and the other growths and secretions from skin, and then, casting off these, they may produce only serous or some other fluid.

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[*] Ueber Carcinoma alveolare und den alveolären Gewebstypus; in Henle and Pfeufer's Zeitschrift. vii 357, 1849.

[†] Treatise on Diseases of the Testis, &c.

[‡] Especially Nos. 2456 to 2459.

[§] Medico-Chirurgical Trans., vol. xxvii. pp. 216 and 368. See, also, a paper by Mr. Curling, in the Monthly Journal of Med. Science, x. p. 1023.

Medico-Chirurgical Transactions, vol. xxvii. p. 398.

In different cysts this diversity of contents may sometimes depend on difference of origin or of early construction. But when it happens in different periods of the same cyst, it illustrates the general rule that, in the course of time, cysts are apt to degenerate, and to produce less and less highly organized substances or secretions. This degeneration does not take place in any certain time; but generally the longer a cyst grows the less organized are its products; as if nearly all the formative force were expended in growth, and little remained available for secretion. Generally, also, the longer a cyst has lived the less organized are its products. However, these rules are only general; and I met with a remarkable exception to them, last year, in a seminal cyst which had existed for many years in a man more than 70 years old. I withdrew from it eighteen ounces of fluid, laden with seminal filaments, and no fresh accumulation took place.

I have spoken of these seminal cysts as separate from the testicle and tunica vaginalis. Mr. Lloyd believed that in some cases he had obtained fluid containing the spermatozoa from hydroceles of the tunica vaginalis; and his belief has been lately confirmed by the examination of a case after death. The specimen which, through his kindness, I am able to show, presents the ordinary appearances of a common hydrocele, except that the inner surface of the tunica vaginalis is uneven with a few small depressions or pouches from it. This hydrocele had been repeatedly tapped; the fluid had always the ordinary serous appearance of that of common hydrocele; but it always contained abundant seminal filaments. Can we suppose, then, that the tunica vaginalis has the power of secreting seminal fluid? or, were there in this case minute secreting cysts which, by dehiscence, discharged their seminal fluid into the cavity of the tunica vaginalis, as sometimes ovarian cysts by spontaneous openings discharge their contents into one another, or into the cavity of a parent cyst? I am disposed to think this latter explanation the more probable; but as yet the facts are too few to justify any conclusion.

Reviews.

On Syphilitic Eruptions, with especial reference to the Use of Mercury. Illustrated by Cases. By THOMAS HUNT, M.R.C.S.E., L.S.A., &c. Pamphlet, 8vo. pp. 25. London: Churchill. 1851.

MR. HUNT in this paper endeavours to establish the opinion that the non-mercurial treatment of syphilis leads to the production of secondary eruptions; and, that, for the cure of either form of the malady, mercury is indispensable. The author's mode of exhibiting this remedy is not, however, by its long-continued use, but by administering it fully and rapidly, then withholding it for a time, and again resuming its administration. Under the opposite plan, Mr. Hunt states that the mineral produces injurious effects. Without the exhibition of mercury, syphilitic diseases, which the author considers to be one disease modified by constitutional peculiarities, are supposed by Mr. Hunt to remain dormant in the system. The supposed cures of the disease by non-mercurial treatment Mr. Hunt asserts to be fallacious, consisting in truth of nothing more than tolerance of the disease. Mr. Hunt, however, has not, in our opinion, adduced evidence in support of his views. On so important a question, unsupported statements cannot be accepted in the place of ascertained facts. For our own part we do not concur in the author's opinion of the evil effects of the non-mercurial treatment of venereal disease.

We recommend that the student should accompany the perusal of Mr. Hunt's pamphlet with the examination of some treatise by an author holding opposite views (Mr. Skey's treatise occurs to us[*]); and, above all, either view should be tested by clinical observation, rather than taken on authority.

Dr. Hooper's Physician's Vade-Mecum; or, a Manual of the Principles and Practice of Physic. New Edition, considerably enlarged and improved, with an Outline of General Pathology and Therapeutics. By Wm. Augustus Guy, M.B. Cantab., &c. &c. Small 8vo. pp. 576. London: Renshaw, Whittaker, Highley, Simpkin, Churchill, Houlston. Edinburgh: Black, Maclachlan. Dublin: Fannin, 1851.

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[*] A Practical Treatise on the Venereal Disease. By F. C. Skey, F.R.S. London: Churchill. 1850.

It is obviously unnecessary for us to do more than announce the fact that a new edition of Hooper's Vade-Mecum has appeared under the auspices of Dr. Guy. The reputation of the editor will be a sufficient security for the character of the additions now made to a work so well known. In years gone by, no student of medicine commenced his studies without having this book in his hands; and many practitioners found it a convenient and safe guide even in the duties of their after lives. The extent of a medical education at the present day precludes exclusive reliance upon *vade-mecums*; nevertheless, as manuals are much in vogue, the publishers have acted wisely in entrusting the work now under notice to the able pen of Dr. Guy for revision. The manual which is now presented will be found widely different from its predecessors, inasmuch as it embodies the latest applications of histological researches to pathology. The original text has been entirely revised, and in great part re-written; and the latest improvements in physiology, pathology, and therapeutics, have been noticed, so far as the limits of the work permitted. In short, the volume thus edited by Dr. Guy may with justice be regarded as a new work, and a complete manual of the principles and practice of physic. The student will find it of great assistance in his clinical studies; and the practitioner will find it useful to refresh his memory on many details which his varied cares and occupations may, with the lapse of time, have obliterated.

THE VACANT EXAMINERSHIP OF THE ROYAL COLLEGE OF SURGEONS.

Mr. James Luke, surgeon to the London Hospital, has been elected by the Council of the College to fill the vacancy occasioned by the resignation of J. P. Vincent, Esq., of St. Bartholomew's Hospital.

The seat occupied by Mr. Vincent in the Council of the College is also vacant; and this, with another seat at the Council Board from the resignation of Mr. Cutler, will be filled up at the next election.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 27, 1851.

The President in the Chair.

Cases in which there was Unusual Difficulty in the Diagnosis of Pleuritic Effusions.

By T. A. Barker, M.D.

The first case related by the author was one in which there was extensive emphysema of the left lung, which had encroached greatly on the right side of the chest, pushing the heart and mediastinum beyond the mesial line. The right lung, which was closely adherent to the costal pleura, was reduced to about a fourth of its usual size, was exsanguine, and contained no air, resembling a lung compressed by effusion in the pleura. In consequence of these changes no respiration could be heard in the right lung during life; the right side of the chest was universally dull on percussion, and the patient could only lie on the right side or sit erect. Along with these symptoms were others closely resembling those which usually attend hydrothorax; and the dyspnœa and symptoms of approaching apnœa being very urgent, the author thought himself justified in having a very fine trocar introduced into the chest, in order to ascertain positively whether there was fluid. No inconvenience resulted from the operation, and the symptoms were soon afterwards explained by the discovery, on post-mortem examination, of the very unusual state of parts above described.

The next case was one in which, without any of the general symptoms of pleuritic effusion, it was discovered, by auscultation, &c., that there was no respiration going on in the posterior third of the left lung. In four days the person died. The lungs were healthy; but there was extensive effusion, confined to the back part of the chest by a very narrow line of adhesion, extending from the upper and back part of the chest to the diaphragm, half way between the ribs and the sternum. The author referred to three other cases which he had seen, in which the pleuritic effusion had been limited by adhesions in the same position and precisely similar; only one of these had been seen by him during life, and in that the symptoms closely resembled those in the case last related. Two other cases were shortly alluded to, in which there was emphysema to a considerable extent; but respiratory sounds could be heard in every part of the affected sides, in consequence of the lung being kept partially in contact with the ribs by mucous adhesions, forming several separate cavities in which the purulent matter was contained.

Dr. THEOPHILUS THOMPSON, on rising, said he should be sorry so interesting a paper should pass without a comment, and observed that there was one point deserving of attention—severe pain occurring at a considerable distance from the inflamed pleura. He referred to a case which occurred to him of pain in the right hypochondriac region, which was caused by inflammation of the right pleura, and cured by the free use of mercury and bleeding; in another case, where the patient had died from the effusion, the pain was entirely referred to the abdomen. During the reading of the paper he (Dr. Thompson) had not observed any reference to the vibrations of the voice felt by the hand; for, in difficulties of diagnosis, he thought it well to fix our attention on cardinal points. The vocal thrill was increased in parts where effusion does not exist, and diminished where it is. The respiratory murmur, whether direct or indirect, was difficult to distinguish, and he mentioned a case in which, with very great effusion, a surgeon, from the distinctness of the respiratory murmur, had not wished to introduce a trocar. Too much stress was placed on the absence or presence of the vocal thrill affording a correct diagnosis: those cases in which it was absent from consolidation scarcely presented themselves without other symptoms to remove ambiguity.

The PRESIDENT spoke of many cases of pleuritic inflammation in which pain was referred to distant parts, as to the upper or lower region of the abdomen; and from these circumstances, many patients labouring under pleuritis were treated for peritonitis. Dr. Theophilus Thompson's remarks on dulness and the vocal thrill, were very important, but he (the President) did not consider that these alone would be sufficient to form an accurate diagnosis, or to allow a surgeon to puncture the thorax, for many cases of solid morbid growths produced similar signs.

Dr. SETH THOMPSON said he thought Dr. Theophilus Thompson had stated that the vocal thrill did not exist in cases of extensive solidification, but he (Dr. Seth Thompson) had been accustomed to consider that it always did exist, and observed that Dr. Chambers had pointed it out as one of the diagnostic signs between this and pleuritic effusion.

Dr. THEOPHILUS THOMPSON, in answer, said, what he wished to be understood from his observations was, that, in consolidation, there was dulness on percussion, with increase of vocal thrill; in pleuritic effusion, dulness on percussion, with absence of vocal thrill. He was aware that, in tubercular consolidation, it may be absent; but of course, in such a case, we would not leave out the other collateral circumstances to aid the diagnosis.

Dr. BARKER observed that he had brought those cases forward, being such as he had not met with before, and as illustrating the difficulties which may sometimes present themselves in forming a correct diagnosis. In answer to Dr. Theophilus Thompson's remark, he begged to state that, in the first case cited, there was no vocal thrill on either side of the chest; and, with regard to the second case, it was difficult to say whether it existed or not, for the extreme pain which the patient experienced on the least motion rendered it difficult to discover it either on the healthy or diseased side, owing to the feebleness of the patient's voice.

A Case in which a Fibro-cellular Tumor was removed from the Hand. By SAMUEL SOLLY, F.R.S.

A MARRIED woman, aged 49, was admitted, under Mr. Solly's care, into Queen's ward, at St. Thomas's Hospital, February 22nd, 1861, with a tumor on the palm of the left hand, having very much the shape and appearance of a large potato of an oblong shape, the diameter varying from three to five inches, and attached by a broad pedicle.

Some patches of ulceration existed, two or three lines deep, having none of the characters of malignant disease. The surfaces bled easily, and were surrounded by a limited blush of redness. The tumor was elsewhere of a pale colour, with small tortuous veins ramifying upon it; it had an elastic feel, much like that of encephaloid disease, in some parts giving the idea of fluid, in others firmer.

There had been increase of pain of late, but it was not constant, and depended much upon position. The health had been but little affected. The tumor encroached upon all the fingers, but did not prevent their flexion and extension, and a considerable portion of the skin of the palm remained intact.

Much difference of opinion existed as to the nature of the disease, whether malignant or not. Mr. Solly was induced to consider it as a species of enchondroma. By a grooved needle some jelly like stuff was obtained, containing much granular matter, with many exudation corpuscles, and some spindle-shaped cells, with here and there a common epithelial cell.

Mr. Solly removed the tumor on March

1st, 1851. When examined it had the appearance of an enchondroma of a soft kind. There was a firm white dense matrix, enclosing glairy fluid. No true cartilage could be found. Portions of the tumor were sent to Mr. Quekett, and also to Mr. Birkett. Communications from these gentlemen show that they agreed as to the non-malignant character of the disease. A careful report of the actual condition of the tumor after removal, drawn up by Dr. J. L. Bristowe, also tends to the some conclusion.

The wound was of a healthy character: on the 19th of March it is reported to have been only one-fourth of its original size, the swelling and tenderness of the fingers diminished, and the back of the hand regaining its natural appearance.

The **President** said he considered this a very good case of enchondroma, in which the tumour was neither fungoid nor malignant: it was stated to have existed for thirty years, and he never knew a fungoid growth last such a length of time. The President next referred to some beautiful specimens shown by Mr. Paget, some years since, at the College of Surgeons, which he considered very like this tumour of Mr. Solly's; and thought this paper very interesting, as showing, in the present state of our knowledge, how difficult it was, even by the microscope, to discover whether a growth was malignant or not.

Mr. **Solly** said he had nothing to add to what he had stated in his paper. The case presented great interest to him, from several high authorities considering it malignant; and that, in opposition to this opinion, he had removed it without amputating the hand. The cicatrix was now healthy, also the woman, whatever result should be come to as to its character. Mr. Campbell de Morgan was present at the operation, and could verify the interest felt as to the tumour, and the depth of the incision required for its removal. In concluding, he said the dose of opium given after the operation had been stated at twelve minims, but it should have been forty, which was the dose he (Mr. Solly) was in the habit of administering after operation in such cases.

Aneurismal Dilatation of the Posterior Tibial Vein communicating with the Popliteal Artery. By Edward Cock.

George Mortimer, aged 28th, a tide-waiter, was admitted into Guy's Hospital, October 30th, 1850, for a large swelling on the back of his leg, which had come on after a long and severe attack of fever.

The swelling had all the indications of being a deep-seated abscess under the gastrocnemii muscles.

Eleven years previously his femoral artery had been tied for secondary hæmorrhage following a wound in the popliteal space. He had perfectly recovered from the accident and the operation, and the only inconvenience he ever experienced was a dilatation of the superficial veins of the leg, which took place about two years afterwards, and became permanent.

On October 30th a puncture was made in the swelling, which gave exit to nearly three ounces of dark grumous pitchy blood, which did not coagulate, and had evidently been extravasated for a considerable period.

Two days after the puncture had been made nearly a pint of pus escaped from the wound, to the great relief of the patient, and the abscess continued to discharge and diminish in size during a period of twelve days, the man's health and strength daily improving.

On November 14th, sudden and alarming hæmorrhage, to the extent of nearly three pints, took place from the wound. The cavity of the original abscess became distended with blood, and infiltration was rapidly taking place into the tissues of the leg, and through the popliteal space towards the thigh.

It was judged expedient to amputate the leg above the knee, after which the man got perfectly well.

Examination of the amputated limb.—In the popliteal space, corresponding with the original seat of injury eleven years previously, there existed a small sac, into which opened the popliteal artery, and to the walls of which were attached the termination of a fibrous cord, which represented the popliteal vein obliterated up to the time of amputation.

Leaving the sac, from its inferior surface, were two vessels, the one being the continuation of the popliteal artery, reduced in size, and passing down to be distributed normally to the leg. The other, the popliteal vein, permeable, dilated, thickened, pouched, and puckered, which passed down, and divided as usual into the anterior and posterior tibial veins. The former was completely obliterated; the latter immediately terminated in an aneurismal dilatation about as large as a hen's egg, and situated under the soleus muscle. An irregular opening in the sac communicated directly with the cavity which had constituted the abscess when the patient first came under observation, and which subsequently (at the period when the hæmorrhage took place) had become distended with blood, received from the popliteal artery by means of its communication with the vein.

All the deep-seated veins of the leg had evidently been long obliterated, and were occupied by solid coagulum, the blood having been returned through the agency of the superficial veins.

The **President** announced that, at the next meeting, a paper would be read "On the Cure of Popliteal Aneurism by Compression," forwarded by Dr. O'Bryan Bellingham, of Dublin; and another case on the same subject by Mr. Hewitt; also a paper "On a Case of a Cyst containing Hydatids obstructing the Subclavian Artery," by Dr. Dixon.

PATHOLOGICAL SOCIETY OF LONDON.

Dr. Latham, President.

May 6, 1851.

Mr. William Adams exhibited a specimen of

Cholesteatomatous Tumour of the Brain.

The tumour was situated on the right side of the pons Varolii, between it and the fifth nerve of the right side, which was stretched round its outer surface in a slight depression; it measured about an inch in length, and half an inch in breadth; its surface was irregular, presenting a mammillated rather than a lobulated appearance; it was surrounded by a thin membranous cyst, loosely applied to the surface of the tumour, and completely independent of the arachnoid, which could easily be traced beneath it. The surface of the tumor presented a smooth, translucent, pearly appearance: it was brittle, being readily broken into irregular fragments, and had no membranous continuity. The mass of the tumour consisted of a soft waxy-looking material, having in parts, and particularly towards the outer surface, a laminated arrangement; this was not distinctly traceable towards the centre, where the substance readily broke up into irregular rocky fragments, granular rather than laminated. Under the microscope, this cholesteatomatous matter was seen to consist of thin membranous layers, having very much the appearance of tesselated epithelium; the cells were extremely pale and delicate in appearance, and generally, if not invariably, without nuclei; almost all of them had irregular sides, and were without any regularity of form. In addition to these cell-membranes, the substance of the tumour was seen to consist of irregular plates and tabular crystals of what were supposed to be cholesterine, not from chemical examination,—from the well-marked character of the tumour, and its close correspondence in every respect with the form of tumour described by Müller as "cholesteatoma, or laminated adipose tumour." The specimen had been a considerable time in spirit; its true character never having been recognised, and nothing being known of the history of the case.

Mr. Stanley exhibited a specimen of

Polypous Excrescences,

growing from the mucous membrane of the bladder of a male child, aged two years.

The child had for several months suffered from irritation in the bladder; the character of the symptoms being such as to lead to the suspicion of the existence of stone; and in consequence repeated examinations of the bladder, by the sound, were made, but no stone discovered. About a month before death, the walls of the abdomen, through the hypogastric region, became tense and acutely painful; and, at a point just below the umbilicus, fluctuation being after a little while discovered, a puncture of the integuments was here made; from the aperture there issued first some fluid resembling urine, and then about two ounces of pus. From this time to the child's death the whole of the urine was discharged through the opening in the abdominal walls, none passing through the urethra; but this was accompanied by gradual sinking of the vital powers.

On examining the body, numerous soft membranous pedunculated growths from the mucous membrane of the bladder were found projecting into, and in great part filling its cavity. An abscess had formed between the recti muscles and peritoneal lining of the abdominal walls. This abscess extended from the umbilicus downwards to the fundus of the bladder. The tube of the urachus was pervious, and it opened into the cavity of the abscess; whilst at its upper part the abscess communicated with the aperture which had been made by puncture in the abdominal walls. The kidneys were much hypertrophied.

Mr. Solly exhibited a specimen of

Sacculated Bladder,

from a man, æt. fifty-one, admitted into St. Thomas's Hospital April 22, 1851, with retention of urine. He had suffered from stricture for three years. The stricture gradually became worse, and at last ended in complete retention, for which he had been admitted under Mr. South in January. He stated that he had never had a catheter passed before this, but that he had had a discharge of blood with urine several times. On this occasion Mr. South and Mr. Dixon both failed in introducing a catheter into the cavity of the bladder; the instrument, though passing easily far enough to reach that organ, not moving freely, and no urine coming away through it. The retention was nevertheless relieved, and his urine, at first thick and alkaline, was rendered clear and acid by the administration of dilute sulphuric acid: and he went out, passing his water in a very good stream, the latter end of February. He remained tolerably well for some little time, but then the stream again lessened, and for ten days previous to admission his urine only dribbled away. Several attempts had been made to pass a cathether, which caused profuse hæmorrhage, but did not succeed in drawing off any water.

On admission, a large-sized catheter was introduced easily sufficiently far to reach the bladder, but no urine followed, it being doubtful whether the instrument was within the canal of the urethra: the patient was sent to bed, and ordered hot fomentations, and a full dose of opium. On examination per rectum, no enlargement of the prostate was found. Next morning (the patient having passed very little urine) Mr. Solly succeeded, with very little difficulty, in introducing a full-sized cathether, and drew off a quantity of thick, very offensive urine, apparently containing a good deal of pus. After this there still remained an irregular lobulated tumour, apparently solid; its nature, too, in the left hypogastrium, painful and tender on pressure. He was much relieved, but his countenance was very anxious, and his pulse weak. On 27th he complained of severe pain in the tumour above referred to, but had passed a considerable quantity of water, and did not complain of the usual pain of retention; so that it was thought needless to reintroduce the catheter; his countenance was very anxious; his tongue furred; and his pulse very quick and weak; the urine was dark-coloured, very thick, extremely offensive, and showed, under the microscope, many crystals of phosphate of lime, a few blood-corpuscles, and a quantity of granular matter aggregated together in irregular masses. Next day he became semicomatose, and died the following morning.

There was found a stricture of the urethra about the membranous portion; also several false passages. There was no disease or enlargement of the prostate. The muscular coat of the bladder was very much thickened, and in several places there had escaped between its fibres large herniæ of the mucous coat, which formed capacious cysts, communicating by narrow orifices with the cavity of the bladder, and which were full of urine. It was these cysts which had formed the tumour in the left hypogastrium which had been noticed during life. Both ureters were very much distended throughout, at intervals swelled into large cysts. The mucous coat of the bladder was very much thickened, inflamed, and ulcerated. Both kidneys were larger than usual, and pale.

Dr. PEACOCK exhibited a specimen of

Injury of the Aortic Valves from Violent Muscular Effort.

A sailor, æt. 34, died in St. Thomas's Hospital on April 7th. He first came under Dr. Peacock's notice in November 1849, and then stated that about ten months previously, while endeavouring to ascend the mast of a ship more rapidly than another man, he was suddenly seized with pain in the region of the heart and syncope, and had ever after suffered from symptoms of cardiac disease. He was then regarded as labouring under obstructive and regurgitant disease of the aortic orifice. He went to sea again in the spring of 1850, and returned from India and Australia a short time before his admission, in March 1851. While in the hospital, he had a severe cough and some difficulty of breathing, and expectorated frothy mucus, deeply tinged with blood. There were evidences of hypertrophy of the heart, and a distinct to and fro murmur was audible over the whole pericardial region, but most marked over the aortic orifice. There was some œdema of the lower extremities; his complexion sallow, and the liver enlarged. He recovered considerably under alteratives and tonics; but in the afternoon of the 5th of April he was suddenly seized with rigors, followed by perspiration, and gradually sank and died on the 7th, retaining his intelligence till very shortly before his death.

There was found a small extravasation of blood on the surface of the left hemisphere of the brain. Fluid was contained in the pericardium, and in the pleural and peritoneal cavities. The heart was of very large size, weighing 17¼ ounces avoirdupois; and its increase of size was chiefly due to hypertrophy and dilatation of the left ventricle. The aortic valves were extremely incompetent, owing to the very imperfect condition of the left and posterior valves, which were much thickened and shortened, and had their common angle of attachment inserted at a point nearly half an inch below the level of the two other angles; above this point there was a large and thick plate of bone; and on the lining membrane of the ventricle and the free fold of the mitral valve, in the course of the regurgitant current, there were small particles of organised false membrane: near the free edge of the mitral valve there was a small orifice which communicated with a long body, resembling an ordinary vegetation, which projected into the cavity of the left auricle. The lungs and liver were much engorged, and the spleen contained a large fibrinous deposit. The other organs were healthy. Dr. Peacock remarked that, though it was not at all uncommon for the cordæ tendineæ of the mitral valve, or the folds of the aortic valves, when diseased, to break down under slight muscular effort, it was very rare that the occurrence of disease of the valves in persons previously in sound health could be directly traced to injuries of this kind. In this instance he supposed that the angle of attachment of the left and posterior aortic valves had been torn down, but had not been entirely separated from its connection with the coats of the artery. The patient had never had rheumatic fever, and there was every reason to believe that his heart was entirely free from disease till the occurrence of the accident.

Mr. Shaw exhibited a

Larynx surrounded by Cancerous Growth,

and a wax model from a female æt. 32. At Christmas 1849 she observed a small fissure on the right side, midway between the root and the tip of the tongue; was first seen by Mr. Shaw in May 1850; the sore had increased to the size of a sixpence; it rested on a hard, distinct, hemispherical base, somewhat larger than a split pea, and moveable; its surface and edges were rugged; no enlarged gland could be felt in the neighbourhood; the posterior tricuspid and front molar teeth of the upper jaw were decayed. On the 8th June Mr. Shaw removed the ulcer, and the small tumour on which it rested, cutting wide of the edges of the sore, and taking up some of the muscular substance of the tongue beneath the morbid structure. The surface of the sore had the usual bluish pulpy appearance of granulations, but the hard base was of a light grey colour, approaching to white, a little spongy near the surface, but so dense that it did not yield to the pressure of the fingers, and cut like an unripe pear. A thin slice of the tumour consisted of fibrous tissue arranged in areolæ, with numerous epithelial scales lying in tesselated order, and the whole scattered over thickly and irregularly with granules, some of which were congregated into imperfect mulberry cells. On the 23d June the wound had healed. In the end of September (the cicatrix in the tongue having remained sound) there was observed a lymphatic gland, about the size of a small marble, hard and moveable, in the situation of the right submaxillary gland. This tumour, with some of the sound submaxillary gland, and a lymphatic gland of which a small part was converted into a white substance, was removed on October 3d: it was of a light grey colour, crisp or friable, and had lost all the characters of a lymphatic gland: it consisted of imperfect epithelial scales irregularly congregated, with a profusion of molecules or granules distributed over and among the scales; the accompanying lymphatic gland was sound in structure, and the part converted into white was thickly charged with fat-globules. There was some difficulty in arresting the hæmorrhage, but the wound was cicatrized on the 29th October. On the 22d November the cicatrix appeared unsound, elevated, and the subsequent parts adhered to the jaw-bone. From that period till 5th February the parts beneath the cicatrix enlarged, and an ulcer of a distinctly carcinomatous appearance began to form. In the middle of March the wax model was taken, and it exhibits an excavated ulcer, with fungous flat borders, having everted edges, situated over the submaxillary gland, and the lymphatic glands below greatly enlarged. By the end of the month the tumours extended to the left side of the neck, and were firmly fixed to the jaw and deeper parts; the disease extended down to the sternum and past the clavicles; and the skin from the side of the face to the breast and axilla was dense, and adherent to the subjacent parts. She died April 10th.

The larynx, trachea, and œsophagus were surrounded by cancerous tumours, which, from being largest on the right side, turned these parts to the left. The right internal jugular vein was closed, and its coats converted into the morbid structure around, so that it was difficult to recognise its remains. The thyroid gland was infiltrated with the diseased growth, and of dense consistence. The muscles were in some places completely converted into the cancerous structure; in others, they were thickly studded with cancerous tubercles, some of which were continued into each other. The diseased mass adhered to the jaw, sternum, and clavicles, so closely, that in some parts they were incorporated into one. The morbid structure was traced to the glands of the axilla, and principally to those on the right side, also a short way down into the anterior mediastinum. The other viscera were healthy.

The cicatrix on the tongue appeared perfectly sound, and so did the adjacent parts to some distance.

Dr. West exhibited a specimen of

Chronic Inversion of the Uterus,

which caused death, in consequence of frequently recurring hæmorrhage, 29 months after its occurrence.

The patient, æt. 29, first came under Dr. West's notice in January 1850, fourteen months after her fourth labour.

She had been married seven years; all her labours had been natural and quick; but her last was attended, immediately after the extraction of the placenta, with a very violent hæmorrhage, which occasioned syncope, and which was accompanied with the appearance of a tumour beyond the external parts. This was attributed to a forcible attempt to remove the placenta made immediately after the expulsion of the child.

The tumour was replaced in the vagina by the medical attendant, and she experienced no further inconvenience until a week after, when the tumour again projected externally, and was once more replaced; since which it never projected outwardly, though it was often just within the extrrnal parts.

She suckled her child for thirteen months: for the first ten months she had no ailment, but at the eleventh month menstruation came on very profusely; it recurred still more profusely at the 12th, and even more at the 13th period.

She was in the hospital at her 14th period: its abundance was checked by the matico; but, at her 15th period, and on one or two subsequent occasions, it became necessary to plug the vagina.

The uterus, at the time of her admission, was found entirely inverted, with the exception of the os, which, however, did not constrict the organ at all, but allowed of the easy introduction of the finger between it and the uterine wall. Attempts to revert the uterus, one hand being introduced entirely into the vagina, while firm pressure was made with the other on the pubes, were made both by Mr. Stanley and Dr. West, without success.

The uterus, when touched, always showed a very low degree of sensibility. She refused to submit to the removal of her uterus by ligature, and, for a time, she decidedly gained ground; matico, both internally and as a lotion, checking the menstruation and restraining the hæmorrhage very greatly; while, under the use of preparations of iron, she gained strength in the intervals. In September 1850 this improvement ceased; and, though there was no great increase of hæmorrhage at the menstrual periods, yet there was an almost constant oozing of blood, in the intervals of which she was greatly exhausted, and the return of each menstruation left her weaker than before. She died on April 19th, 1851, utterly anæmic; the discharge from her vagina having for some weeks been almost entirely serous. A considerable quantity of transparent serum was found in the abdominal cavity, but all the organs were drained of blood.

The uterus was completely inverted; the peritoneum, just at the point of inversion of the uterus, had lost its transparency, and was thickened and uneven; but there were no other traces of inflammation or its results. The insertions of the uterine appendages were drawn down into the cul-de-sac formed by the inverted uterus, the contraction of which had been so considerable that it would not have been possible to introduce into it any body larger than a quill.

The openings of the Fallopian tubes into the uterus could not be discovered on its inverted surface. The epithelium, as ascertained by Dr. Kirkes, was cylindriform, but destitute of ciliæ. The cylinders apparently atrophied. The tissue of the uterus was unusually dense, but not otherwise altered.

MEDICAL SOCIETY OF LONDON.

DR. MURPHY IN THE CHAIR.

May 24, 1851.

DR. WEBSTER read a paper on the health of London during the six months terminating March 29, 1851.

After reference to facts already published in the Registrar-General's return, in respect of the difference of mortality from different diseases, the author stated that one-sixth of the gross mortality, or 4451, took place in workhouses, asylums, prisons, and hospitals of the metropolis, during the two quarters ending March 1851; the male mortality being one-fourth greater than the female.

The mortality was as follows:—

Workhouses . . .	2564
Lunatic Asylums . .	221
All prisons (6120 inmates)	27
Lying-in Hospitals[*] .	14
Lock Hospital . .	No death.
Hospital for Consumption	33
Small-pox Hospital .	46
Fever Hospital . .	42

By returns which had been forwarded to Dr. Webster by professional friends connected with nine of the general hospitals, the following table was constructed:—

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[*] Seven of these deaths were among children.

Statistics of In-patients at Nine General Hospitals in London during Six months, terminating the End of March 1851.

Hospital.		Admitted.	Died.	
				Per Cent.
St. Bartholomew's	Medical	891	121	13·58
	Surgical	1796	90	5·01
	Total	2687	211	7·10
St. Thomas's	Medical	913	92	10·07
	Surgical	1224	60	5·03
	Total	2137	142	6·64
London	Medical	528	63	11·93
	Surgical	1362	63	4·62
	Total	1890		
St. George's	Medical	691	82	11·87
	Surgical	785	45	5·73
	Total	1476	127	8·60
Middlesex	Medical	627	51	8·13
	Surgical	640	26	4·06
	Total	1267	77	6·07
Westminster	Medical	458	40	8·73
	Surgical	318	11	3·45
	Total	776	51	6·57
Charing Cross	Medical	179	26	14·52
	Surgical	443	16	3·61
	Total	622	42	6·75
Royal Free	Medical	95	1	7·05
	Surgical	219	8	3·66
	Total	314	15	4·77
King's College	Both classes	659	59	8·96
Grand total in all nine hospitals		11,838	850	7·18

By the Registrar-General's reports, 70 deaths at University College, and 191 at Guy's, had taken place during the past six months; the latter being an increased mortality by nearly one-seventh. From returns which Dr. Webster had received, it appeared that the total number of 29,161 persons became inmates of hospitals, or that one in 77 of the inhabitants of the metropolis became the object of hospital relief.

Mr. Acton remarked that inferences drawn from bare statistics were liable to lead the profession into error: he would give an instance in reference to that department of surgery which came more immediately under his notice. Dr. Webster had stated that no death had occurred in the Lock Hospital, and the inference that might be drawn would probably be that venereal disease rarely proved fatal at the present time: this, however, does not seem to be the case; for in the Registrar-General's returns we read that syphilis proved fatal during the year 1850 to 122 persons. Now he (Mr. Acton) had shown, in his recent work, that syphilis proved most fatal in children under one year of age; and he contended that it was not enough to know the relative mortality of special hospitals, but the forms of the disease which proved fatal there, as well as the relative time required for their cure. But even in the best arranged statistics great care must be taken in drawing conclusions: as an example he would cite the following:—In 1839 only 29 deaths in the metropolis are mentioned as following syphilis: in subsequent years they have been gradually increasing, until, in 1850, they amounted to 122. Are we to infer that syphilis has increased in virulence? By no means: but probably the registration has become more accurate; for there is every reason to think that the number of fatal cases has gradually declined of late years, as Sir A. Cooper states that he saw seven cases of sloughing phagedena at one time in the workhouse in St. Giles's, five of which proved fatal. Such casualties are not met with in the present day, although the mortality is still great among infants.

Now, according as a writer may take one or other view of the subject, so will statistics back his opinion.

If, however, statistics must be looked on with suspicion, they enabled the profession (even in the present imperfect state) to obtain much valuable information. It follows, from a late report of the Registrar-General, that although syphilis had not proved fatal in a single case in the Lock Hospital, yet the disease required a longer stay in the hospital than any other ailment (with the exception of consumption); for forty-eight days is the average time required for curing in-patients at the Lock, whereas in the general hospitals the stay of patients is only thirty-four days: and he urged on the society the necessity of weighing well the circumstances which must influence the results which he believed would be found equally applicable to other forms of disease.

May 31.

A PAPER was read by Mr. Taylor, "On the Treatment of Febrile Diseases by Fatty Inunction." This paper was a resumé of the author's views already published.

Dr. TILT read a communication

On the Galvanic Cataplasms of Professor Recamier,

an abstract of which will be given in our next number.

Fatal Inversion of the Uterus.

Dr. E. Smith related that he had been called at 11 P.M., May 5th, to a patient who had been attended in her second confinement by a midwife: she was 35 years of age, of a healthy but not robust habit of body.

A tumour ten inches in diameter was found to protrude from between the valves. In this tumour, which was an inverted uterus, the placenta was still found adherent. There had been no extraordinary hæmorrhage.

The pulse could only be discovered at long intervals; however, consciousness remained perfect. Assisted by Mr. Lucas, Dr. E. Smith removed the placenta, and then returned the uterus to its normal site, without involving the loss of much blood. Brandy was administered to the extent of half a pint in the course of three hours, by half ounce doses; but nevertheless, about 8 A.M., the patient died, without any prominent symptom.

A *post-mortem examination* proved the body to be perfectly healthy in its vital organs. The vascular system was bloodless; the cavities of the heart being empty. The uterus was found in its proper position; the cavity measured five inches in the transverse, and eight inches in the longitudinal direction. The substance of the uterus was flabby, and the thickness of the walls at the fundus half an inch.

Dr. Smith believed that the patient had died from the loss of blood, and from the shock induced from the violent inversion of the uterus. There was no direct evidence to prove that the midwife had used improper force in endeavouring to remove the placenta in the first instance.

Fibrinous Disease of the Placenta.

Dr. OGIER WARD gave the following description of a placenta, which he had removed with some difficulty from a patient, æt. 39, mother of seven children, the delivery in question being a premature one, at the seventh month, the fœtus weighing ten and a half pounds.

The placenta was very small, with many nodules of lymph on its internal surface, in amount and extent greater than the healthy structure; the fœtal surface was studded with semi-transparent tubercules along its edge; the cord was very thin, and thirteen inches in length; the capillaries of the condensed portion were filled with and surrounded by matter closely resembling ossific deposit.

Arch of Bone uniting the two portions of a Fractured Femur.

Dr. CRISP exhibited a femur which showed, in addition to the ordinary callus, an arch of new bone extending from the upper to the lower portion of the fractured shaft. Dr. Crisp had not been able to discover a similar preparation in any surgical museum.

On Ramollissement of the Brain. By Mr. Barlow.

The following case was the basis of the following paper. A male patient was admitted into the Westminster Hospital, under Dr. Roe, on Nov. 13th, 1848. The expression of the face was heavy; there was pain in the head, which varied in intensity; giddiness, and a difficulty in moving the right hand and fingers; memory and reasoning powers defective. After a few days, the symptoms having gradually increased in severity, the patient lay in a state of stupor, from which, however, it was possible to arouse him. There was complete paralysis of the right side. Sometimes respiration and deglutition were performed with difficulty. On the 22nd every symptom had become more serious; and on the 26th the patient died comatose.

The *post-mortem* showed the arachnoid opaque, the left lobe extensively softened; the softening was the most palpable internally.

The author discussed each of the symptoms presented by the case at some length; and expressed the opinion that M. Lallemand laid far too much stress upon the presence of rigidity, in the diagnosis of ramollissement. The paper, which was rather a long one, contained much matter more or less represented by the already established doctrines and facts, and which, from its nature, does not admit of being advantageously condensed.

LIVERPOOL MEDICAL AND PATHOLOGICAL SOCIETY.

April 1851.

Fungoid Disease of the Os innominatum.—Mr. Hakes.

This specimen was removed from a man who was a few months previously under my care, and underwent amputation of the right testis last October. That organ I then brought for your inspection, and gave a few particulars of the man's case. Before it was removed I hesitated to pronounce decidedly as to the nature of the swelling, but it was clearly only to be remedied by an operation, which was proposed and agreed to. Many circumstances seemed to promise a favourable issue. The disease had originated immediately after violence exercised on it four or five years before; in two or three years it had attained considerable magnitude, and had then become almost stationary, and until a short time before I saw him it had not produced pain or inconvenience enough to induce him to lay by from working. The testis was quite moveable, the skin of normal appearance, and without varicose or dilated veins; the cord not in the slightest degree thickened; no enlarged glands could be felt in the iliac or lumbar regions, and his general health and appearance were good.

On examination of the tumour, its removal made it too plain that whatever had been the germs of the disease at first, encephaloid degeneration had now commenced: still, from the number of favourable circumstances, I hoped all would end well, and I should have the satisfaction of adding another instance to the very few on record, of recovery after excision of a cancerous testis, and so be able to hold out a little encouragement to sufferers from the like complaint.

My expectations were soon disappointed. The healing of the wound progressed rapidly; the last ligature came away within the fortnight, and in three weeks there was no vestige of the operation but a linear cicatrix. While all was thus cheering on the right side of the scrotum, and before a fortnight after the operation was passed, pain and stiffness of the *left* hip gave a warning note of the impending attack on the os innominatum. Unwilling to take alarm and see my expectations at once destroyed, and considering that the pain was on the opposite side of the body to the testicle removed, and that he had lately suffered exposure to cold, I hoped that I had to deal with nothing more than rheumatism.

Blisters, &c. relieved him, and he could sometimes move the limb almost as well as in health, but generally the various movements of the extremity were accomplished with extreme slowness, which seemed partly owing to want of power, and partly to pain; the limb was also gradually becoming emaciated, and he had great pain in his back except when lying down. These made my fears preponderate over my hopes. No change in the bone had yet been observed, but, under Jan. 2, 1851, I find the following entry in my Case-book:—

Not so well to-day: pain across the abdomen, just above the pubes, for some days past; no glandular enlargement can be felt in the course of the iliacs, or along the spine; can move the hip-joint in every direction, but stiffly. When standing, rests on the opposite leg; fulness and hardness in the situation of the tensor vaginæ femoris and gluteus medius. Anterior margin of os innominatum not so distinct as natural; slight tenderness over the direction of the sciatic nerve, and in front of the hip-joint; left leg one inch smaller in circumference than the right; easy when quiet, painful when up.

About the middle of January he was admitted into the Infirmary; the swelling above the hip increased, and at length could be felt internally also, filling up the iliac fossa; no enlarged glands could be felt till the middle of February, when some were perceptible in a line about one inch above Poupart's ligament, and parallel to it. The pain in the back and hip increased in severity, and to such a degree that even when lying he required large doses of morphia partially to relieve his sufferings.

The last week in February he was attacked with fever, and was in a semi-comatose state for two or three days before his death, which took place on March 1, 1851, four months after the removal of the testicle.

At the autopsy, there were observed, besides the disease of the innominate bone, very many enlarged glands in the mesentery from the size of walnuts downwards.

Post-mortem.—The morbid growth occupies that portion of the left innominate from which the gluteus minimus and medius arise, projecting into the iliac fossa, and also externally; and altogether not much less in size than a fœtal head. The line of the crest of the ileum and the anterior superior spinous process can be distinguished, but the bony matter is almost gone from them. The consistence of the tumour is firm but elastic; its surface, covered by a smooth, thin, moderately strong membrane, is divided more or less deeply into rounded lobes and ridges of various extent. A section made at right angles to the plane of the ileum suggested the opinion that the bone and periosteum, with some of the superjacent muscles, had been greatly expanded and transformed into a cancerous mass, for the surface of the section seemed divisible into three parts,—a central one, where fibrous tissue predominated, and presented a tolerably regular arrangement, with here and there a few spicula and laminæ of bone, and in the middle of it a large artery, the nutrient artery of the bone, and an external and internal one, which in some respects resembled a divided kidney, exhibiting pyramidal-shaped masses of rather open tissue surrounded by a more firm and close tissue of a fibrous appearance; what, I suppose, is described by authors as the nephroid variety of encephaloid disease. A great many of the mesenteric glands were converted into encephaloid masses varying in dimensions from a pea to a walnut, and at the upper part of the sacrum the lumbar glands were somewhat enlarged and changed in a similar manner.

The liver was free from disease.

Colloid Tumour of the Breast.— Mr. Higginson.

This was removed from a lady, æt. 67, who had recovered favourably after the operation. Profuse and alarming hæmorrhage had occurred from the tumour, which required its immediate removal to prevent fatal loss of blood.

The tumour when dissected had a dark appearance internally, and was hollowed by many communicating abscesses, from the interior of one of which this hæmorrhage had occurred.

Colloid Tumour of the Breast.—Mr. Hakes.

This specimen was removed from a lady, about 40 or 45 years of age, who had usually enjoyed good health. She had noticed a swelling in the right breast for about five years. She was very fat, but the tumour, about the size of an orange, could be distinctly felt. It was unattached to the skin, and moveable in every direction except where it appeared adherent to the mammary gland; it felt globular, but nodulated on the surface; possessed a considerable amount of elasticity; was very firm, but not of stony hardness. It was removed by Mr. Bickersteth while the patient was under the influence of chloroform. The tumour was about the size of an orange, very nearly spherical, but its surface uneven, owing to closely-set rounded eminences from a pea to a pin's head in size. The mammary gland was attached to it in front and to the inner side, and could not be separated from it without the use of the knife; the rest of the tumour was easily detached from the surrounding textures, being enclosed in a cyst of condensed filamentous tissue. A section of the tumour presented a very glistening appearance, due to the transparent and colourless jelly-like contents of an innumerable collection of cells separated by a net-work of more or less opaque tissue. In the centre of the section the cells were circular, and about a line in diameter; between the centre and circumference the cells were gradually larger and of an oval or pyriform shape, the smaller end being directed toward the centre, the partitions of fibrous tissue becoming less and less thick and opaque towards the exterior till they formed the thinnest possible laminæ, and were quite transparent; even then the walls of the cells were firm and elastic, regaining their form after being squeezed. At the circumference some of the cells were nearly as large as a bean. The contents of the cells resembled clear calf's foot jelly, and were easily removed from the loculi. In the centre of the gelatinous contents of many of the cells there appeared a red point nearly as large as a pin's head. I could not trace any vessel to it, as it always disappeared as soon as I began to disturb the gelatinous matter. In whatever direction a section through the tumour was made, the appearances were the same.

The difference in the appearance of this specimen and the one shown by Mr. Higginson was attributable to the different stage of the disease, which had proceeded to the last degree in Mr. Higginson's case, whilst it had been removed in an earlier period of its progress in that of Mr. Hakes.

Cystic Sarcomatous Tumour.—MR. HAKES.

This was removed from the right breast of a woman, aged 42, who was left a widow more than two years ago, with a child just born, which she has continued to suckle till within the last month or two. About twelve months ago she received a blow on the right breast, which then began to swell, and has continued to increase since. When I saw her it was as large nearly as a child's head, the greater part being elastic and fluctuating; but at the lower part the mammary gland, like a hardened nodular substance through the greater part of its extent, could be felt in front of it.

Feb. 24th, 1851.—I tapped the cyst, and drew off twenty-four ounces of chocolate-coloured rather grumous fluid.

Reaccumulation of fluid soon took place; and, on account of the state of the gland itself, she was advised to have the whole breast removed.

March 15th.—The cyst, with the altered mammary gland, and an elliptical portion of skin including the nipple, were removed. In front, the cyst was subcutaneous superiorly, but inferiorly a part of the mammary gland, hard and nodulated, intervened between it and the skin. Behind, the cyst alone could be seen, and its dark-coloured contents were evident through its walls. When the cyst was opened, twelve ounces of reddish-brown fluid escaped, and the walls of the cyst, which were about half a line in thickness, were coated here and there with adherent false membrane, or pale scarlet flocculent coagula. Projecting backwards about an inch or an inch and a half into the cyst, from the hardened part of the breast, was a fungoid-looking mass, about the size of an egg, of a cylindroid shape and truncated extremity, of a semi-transparent greyish or ashy colour, spotted with numerous vascular points; it was about as firm as liver, and friable, like it. Its truncated extremity resembled a thick ring surrounding a polypoid central mass, and its surface generally was, besides, uneven and ragged, presenting bridges and perforations, allowing the probe to pass in different directions through it. The whole mass appeared to perforate the cyst, and then spread out like the top of a mushroom rather than to grow from it; for a probe passed through one of the openings in the tumour deep enough to be felt almost immediately beneath the skin, and also for a considerable distance between the cyst and adjacent surface of the tumour. In the hard part of the gland three or four small cysts were found. Examined microscopically, blood-globules only were seen in the contents of the large cyst; the small ones contained blood-globules, fat-cells, many compound granular corpuscles and granular matter.

Correspondence.

DEAFNESS SUCCESSFULLY TREATED BY VIBRATORY OR MUSICAL SOUNDS.

SIR,—No disease to which the human frame is subject has remained in greater mystery than that connected with the organ of hearing. This may be one of the reasons why medical men have deserted this branch of the profession, and almost left it in the hands of the empiric.

It is not my intention at present to enter into the general treatment of hardness of hearing and its various causes, but to illustrate the very beneficial effects arising to the ear from properly directed vibrations directed towards the middle ear from without.

The greater number of diseases to which the ear is subject arise from exposure to cold, obstructing or altering the quality of the secretion of the wax, and thereby exposing the tympanum to the atmosphere, producing torpor of the auditory nerves, more especially in the nerves connected with the membrana tympani, which may be compared to a musical instrument of the first order, capable when in health of receiving the highest or lowest notes produced by the undulations of the air.

I have found no difficulty in reproducing a healthy ceruminous secretion, by taking off pressure by means of a pneumatic extractor, an account of which has already been published. When the wax is reproduced, the hardness of hearing is greatly mitigated; but still there frequently remains a sensible imperfection of hearing, called by the patients muffling, and often accompanied by most distressing sounds. This led me to institute various trials to remove this morbid condition; and I am now enabled to state that the hearing may be perfectly restored by introducing into one ear an Æolian pitch-pipe, or other properly adapted musical instrument, and continuing the vibrations within the ear for the space of five or ten minutes daily. At the same time, and during this process, the opposite ear must be well closed. It will then be necessary to proceed in a similar manner with the other ear. This plan of treatment ought to be continued for a week or two after the patient's recovery, and ought to be left off with the lowest note. It may be well to state that no good effects can be derived from this method unless the vibrations be confined chiefly within the ear, so as to localise their effects.

It is right also to presume that the vibratory mode of treatment will fail to be permanent in its effects unless the healthy secretions be first restored. The cases in which success is greatest are those in which the ticking of a watch can be heard when pressed upon the temple bones, and those in which hearing is temporarily increased during the bustle and noise that prevail more or less in the open air, or in carriages, or railway travelling, as long as the vibration is kept up. This plan of treatment generally removes disagreeable noises in the ears and head in chronic and nervous deafness.—I am, sir,

Your obedient servant,

A. TURNBULL, M.D.

16, Manchester Square,
May 24, 1851.

Medical Intelligence.

THE ORTHOPÆDIC HOSPITAL.

THE annual festival of the supporters of the Royal Orthopædic Hospital was held on Saturday last, at the London Tavern, when above 100 gentlemen sat down to an excellent dinner. Mr. Quarles Harris, the founder of the hospital, was in the chair, and invited the company to drink to the success of the hospital, which had now for many years proved a blessing to London as well as to the provinces. In the past year the public interest had manifested itself in subscriptions and donations which far exceeded those of the preceding year, but still the amount was not sufficient for the increased and increasing demands upon the funds of the hospital. It had been found necessary to extend the means of accommodation for in-patients, and a building fund had been commenced in furtherance of that object. The expenditure in the course of last year amounted to £1,886, and the number of patients was 1455. The total number of in and out patients admitted since the opening of the charity was not less than 10,570. These statements were received with unequivocal demonstrations of interest by the company; and so actively was this interest subsequently shown, that the Secretary was enabled to announce donations and subscriptions to the amount of £2,500 in the course of the evening. Lord Abinger, who proposed the health of the medical officers, pointed out to the company that the success of the institution was chiefly owing to Mr. Tamplin, the surgeon of the hospital, on whose perseverance, skill, kindness, and charity, his Lordship expatiated in the most glowing terms. Mr. Tamplin, who returned thanks, closed his acknowledgments for Lord Abinger's address with a fervent appeal for the benefit of the hospital; and, the thanks of the company having been given to the chairman and the stewards, the proceedings of the evening terminated at 11 o'clock.

SWEATING SICKNESS IN THE PROVINCE OF HERAULT, FRANCE.

THIS disease has broken out with great severity in Montpellier and its vicinity, having attacked a large number of persons, many of whom have died in five or six hours. M. Berard, accompanied by M. Alqui and several students, had departed for this district to afford what assistance they might. Catarrhal and bilious disorders are also very general, with pneumonia, rheumatism, acute eruptions, and eruptive fevers. The alarm excited is very great; the inhabitants hold no intercourse with one another; all who can leave have taken their departure; and when a death occurs, the people of the house, even parents and near relations, are obliged to bury the corpse in secret.—*L'Union Médicale.* X.

STATISTICS OF THE POPULATION OF NAPLES.

THE total number of inhabitants amounted on the 1st of January, 1851, to 416,475 souls—viz., 203,483 males and 212,992 females. There were 14,991 births in 1850—viz., 7,606 males and 7,385 females; among whom were 1,977 foundlings—viz., 938 males and 1,039 females, besides 124 illegitimate children, consisting of 70 males and 54 females. The proportion of the births to the entire population is as 1 to 27. There were 240 births of twins—viz., 92 of males, 80 of females, and 68 of different sexes. The number of deaths amounted to 15,015—viz., 8,133 males and 6,882 females. There were 17 suicides, and 12 persons drowned. The number of marriages was 8,051.

ADULTERATED DRUGS IN NEW YORK.

It is stated that Dr. M. J. Bailey, the first Examiner of Drugs for the port of New York, during nine months prior to his removal from office, rejected 90,000 pounds of various base drugs. For some reason, unknown to us, Dr. B. has been displaced. It is also stated that efforts have been made for the restoration of Dr. B., on the ground of his superior qualifications, and the increased importation of adulterated drugs since his displacement.—*Boston Med. and Surg. Journ.*

BOOKS & PERIODICALS RECEIVED
FOR REVIEW
DURING THE LAST TWO WEEKS.

Smithfield and Newgate Markets. By the Hon. Frederick Byng.

Practical Observations on the Treatment of Stricture of the Urethra, &c. By John Lizars. Second Edition.

The Cyclopædia of Anatomy and Physiology. Part 41. Edited by R. B. Todd, M.D. F.R.S.

A Letter on the Management of the Lincoln Lunatic Asylum.

Annual Report of the Royal Edinburgh Asylum for the Insane. 1850.

Hydropathic Statistics; or, a Lecture on Hydropathy. By Walter Johnson, M.D. Lond.

What is Mesmerism? or, an Attempt to explain its Phenomena, &c. By Alexander Wood, M.D.

Homœopathy Unveiled; or, Observations on Hahnemann, his Doctrines, and Treatment of Disease. By W. P. Brodribb, M.R.C.S.L.

British American Medical and Physical Journal. May 1851.

The London Journal of Medicine. June 1851.

Edinburgh Monthly Journal of Medical Science. June 1851.

Pharmaceutical Journal. June 1851.

The Monthly Medical Inquirer or Chronothermalist. June 1851.

Comptes Rendus. Nos. 17 and 18, 28 Avril à 5 Mai 1851.

Journal de Chimie Médicale. Mai 1851.

A Catalogue of Medical and Scientific Works: with a Classified Index. Samuel Highley and Son, Fleet Street.

*** This is an excellent and well-arranged Catalogue for all medical book-buyers and readers. It is a very full and complete guide to modern publications.

BIRTHS & DEATHS IN THE METROPOLIS
During the Week ending Saturday, May 31.

BIRTHS.		DEATHS.	
Males....	764	Males....	507
Females..	769	Females..	483
	1533		990

CAUSES OF DEATH.

ALL CAUSES	990
SPECIFIED CAUSES	973
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	220
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	40
2. Brain, Spinal Marrow, Nerves, and Senses	98
4. Heart and Bloodvessels..........	38
5. Lungs and organs of Respiration	136
6. Stomach, Liver, &c.	79
7. Diseases of the Kidneys, &c.	7
8. Childbirth, Diseases of Uterus, &c.	12
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin..........................	3
11. Premature Birth	25
12. Old Age	45
13. Sudden Deaths..................	2
14. Violence, Privation, Cold, &c....	36

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	23	Convulsions........	38
Measles............	39	Bronchitis	51
Scarlatina	10	Pneumonia	64
Hooping-cough	64	Phthisis	150
Diarrhœa..........	16	Lungs	3
Cholera...........	0	Teething	16
Typhus............	32	Stomach	10
Dropsy	13	Liver.............	19
Hydrocephalus	35	Childbirth	7
Apoplexy	13	Uterus	4
Paralysis	16		

REMARKS.—The total number of deaths was 136 *above* the average mortality of the 22d week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 30·09
" " " Thermometer [a] ...... 55·6
Self-registering do.[b] .... Max. 87·8 Min. 34·
[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·23.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1°.6 *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. J. Mackenzie's letter, dated Archangel, 2/14 May, 1851, has safely reached us. He will perceive that his wish has been complied with. We shall be glad to have some other practical contributions from him.

Mr. F. Hanham's communication shall be inserted next week.

The necessity of publishing in consecutive numbers the valuable Lectures of Dr. J. C. Badeley and Professor Paget renders a postponement of several original papers, which are in type, unavoidable.

Mr. Joseph Thomas's letter has come to hand.

The Reports of the Newcastle Pathological and Epidemiological Societies are also unavoidably postponed until the following number.

CORRIGENDA.—In Mr. Mackenzie's paper, page 676, last line of col. 1, for "levator ani," read "sphincter and levator ani muscles."

In Dr. Badeley's lecture, in our last number, p. 952, 18 lines from foot of column 2, delete the words, "Every farmer knows that," The next word, "where," must begin the sentence, and requires the capital letter.

Lectures.

THE LUMLEIAN LECTURES FOR 1851.

ON THE RECIPROCAL AGENCIES OF MIND AND MATTER.

Delivered at the Royal College of Physicians,

By J. C. Badeley, M.D., Cantab.
F.R.C.P., Inspecting Physician to the Lunatic Asylums of Essex, &c.

Lecture II.—Part II.

Insanity—its exciting causes—religion—poetry—Its usual divisions and varieties—ludicrous instances—anecdote of Hatfield and the late Mr. Baron Garrow.—Medical Jurisprudence.—Monomania.—Pathology.—Lunar influence.—Proportions of male and female patients.—Effects of the passions.—Chances of recovery.

Religion, so called, or perhaps more properly spiritual intoxication, is another and a frequent source of mental aberration; and perhaps there is not an asylum of any celebrity, public or private, in which some unhappy victims of misguided fanaticism are not to be found. A mind that is by nature weak, and that having been overwhelmed with sorrow for the loss of relatives, or friends, or other depressing events, and, early and deeply imbued with religious feelings, resorts to meditation and retirement for relief, is very liable to melancholia: still more, a man who has been awakened to a sense of contrition from a life of debauchery, by some serious illness, or by the impassioned appeal of clerical eloquence, and impressed with the idea that he has forfeited all hope of forgiveness by his misconduct, abandons himself to sorrow and despair, may be plunged at once into melancholy madness, or driven to a state of raving and distraction from which he may never be redeemed. I cannot recal to memory a more painful illustration of insanity than has been presented to my contemplation in the restlessness and horror manifested by this kind of patient; nor is there a more frequent cause of suicide.

"In minds broken down by adversity," says Dr. Burrows, "and little acquainted with its genuine precepts, a consequence opposite to that which was sought and expected from religion sometimes ensues. In this case the moral feelings have greater force than the spiritual, and the disappointment is not the default of the principles of the Christian faith. However natural it may be for a devout person to discredit that it is ever a cause of mental distraction, or for him who teaches that religion is the sole duty of life to disbelieve that too much enthusiasm *can* subvert the intellectual system, yet it is clear that, under certain circumstances, insanity *is* occasioned through the agency of religion." Enthusiasm and insanity bear such close affinity, that the shades are often too indistinct to define which is one and which the other. The over-zealous, consequently, should be taught to temper their fervour with discretion, and be reminded that the calendar of crime is stained with the blood which has been shed by its fanatical exuberance. It is not *Religion*, but the distortion of zeal, which is a very different thing.

Itinerant preachers, who, abounding in zeal but deficient in judgment, endeavour to frighten their motley and illiterate auditors by declamation, have frequently shaken reason from her seat, and laid the foundation of this distressing type of the disease. A young woman (for the softer sex are principally the victims) came under my care not long since, solely from listening to one of these spiritual empirics. Even divines of a higher order have exercised and evinced almost incredible influence on their congregation. Thus, during a funeral sermon preached by Bossuet, on the death of Henrietta Ann, the daughter of our Charles I., and wife of the Duke of Orleans, the writers of the time mention that "the whole audience arose from their seats; that terror was visible in every countenance; and that for some moments Bossuet himself was unable to proceed!" The Abbé Caron, who published the life of M. Bridaine, the missionary, states that, at the conclusion of one of his sermons, at Magnole, on Hell, the auditors were so much affected that they all remained motionless; that for three days following his mission all the town remained in consternation and mournful silence; and that, in the streets and public places, young and old men were seen lifting their eyes and hands to heaven, and crying aloud "Mercy! O Lord, mercy!" Butler states that he was present at a sermon preached by the late Dr. Hussey, the Catholic Bishop in Waterford; "that during one apostrophe the audience was agonized, and that at the conclusion there was a general shriek, and some fell to the ground." (Reminisc. p.257.)

With such startling effects on the nervous system as these anecdotes of pulpit eloquence depict, it cannot be a matter of surprise that the brain should sustain a powerful shock, or that its equilibrium should be upset. I have adduced them as additional illustrations of the power of the mind over the body, and deem it unnecessary to enlarge on the *moral* causes of insanity. Amongst the *physical* may be enumerated hereditary predisposition, intoxicating liquors, congestion of the brain from frequent determination of blood to the head, coups de soleil, injuries to the head, narcotics, gastro-intestinal irritation (of which I spoke in my preceding lecture), epilepsy, apoplexy and paralysis, metastasis, scrofula and other causes of structural disease in the encephalon, masturbation, venereal excesses, and whatever tends to exhaust organic nervous power.

In mentioning *whatever exhausts organic nervous power*, as one of the physical causes of insanity, I find that I am concurring in opinion with Dr. Henry Monro, who, in a very able treatise recently published, asserts his opinion "that insanity is a disease of deficient nervous tone consequent on loss of vitality." Insanity is a disordered condition of the brain or mental instrument, manifesting itself in a disturbance of the *intellectual* faculties by what are termed hallucinations, or erroneous impressions or delusions [and designated *intellectual* insanity by the late Dr. Prichard]; or, a perversion of all the natural feelings, affections, and habits, without any assignable cause [which the same author calls *moral* insanity]; or, an entire absence of reason, in which the mind is more or less annihilated—in other words *dementia* The usual divisions are *mania*, *melancholia*, and *idiotcy*.

These three deviations from a healthy or normal condition of mind admit of varied divisions and subdivisions, according to the predominant form or character of the disease. The human mind is such a heterogeneous mass of ideas and propensities, that when reason has lost her control, they break forth in various forms and degrees, rendering thereby a lunatic asylum a chaos of ungoverned passions, hallucinations, and delusions. Thus, under one roof, we find one man singing, another reciting, another standing apparently absorbed in thought, another melancholy and mute, another walking hurriedly, and muttering incoherently to himself, another full of tricks and mischief,—all and each of them regardless and unconscious of the absurdity of their deportment, and holding no intercourse with their companions, but each playing a part in the waking dream of his own disordered imagination. You are in a group of wakeful somnambulists: some will answer you if spoken to; others will remain obstinately silent; some will give not only a rational but a shrewd reply. Nor do madmen always lose the power of reasoning; on the contrary, they are frequently most acute, but their *Data* are erroneous: they labour under delusions,—and their imaginations convert fancies into realities, and so betray the imperfection of their intellect; for, being regardless of censure or of ridicule, they have no concealment, and therefore reveal their hallucination, and are kings, or deities, or statesmen, or poets, or anything else that may be prompted by their visionary impression; and it is in vain to attempt by force of argument to controvert the impression. This "tyranny of fancy's reign" is most vividly pourtrayed by that transcendant delineator of the human mind, Hogarth, who, in his last painting of the Rake's Progress, has represented the diversity with painful fidelity.

Can we, then, approach any nearer to a definition of insanity, asks Dr. Conolly (an authority which admits no question and requires no praise), than by saying that it is the "impairment of any one or more of the faculties of the mind, accompanied with, or inducing, a defect in the *comparing* faculty." These self-styled kings, or statesmen, or whatever be their delusion, are unable to compare their assumed condition with the dress, or the society, or the situation in which they exist. Their reasoning faculty may not be wholly lost, but they are blind to the absurdity of their assumption. Their data are erroneous, and what reasoning powers they may possess are exercised on the vision of their imagination. Converse with them on other topics, and they may appear very rational beings; yet in each case there is a diseased state of mind; and this insane belief (arising as it does from a want of power to compare things which *are* with things which *are not*) constitutes their insanity.

Dr. Millingen attended a judge in the West Indies who fancied himself a turtle! This ridiculous impression did not prevent him from sitting on the bench, nor from the fulfilment of his judicial office.

There is no end to the variety or extravagance of delusions in this class of lunatics. A patient now in Mr. Tomkins' asylum at Witham, in Essex, though he answers rationally when you converse with him, is tortured day and night with the impression that he has little devils in his stomach, and that they talk to him and tease him. He was actually crying with the vexation when I visited him last week, and asked me if I could not hear them. Even Luther fancied the devil was in him, and that he heard him speak. Dr. Ferriday, of Manchester, Dr. Elliotson informs us, had a patient who imagined that he had swallowed the devil; and so benevolent was he in his feeling, that he would not discharge the contents of his alimentary canal, lest he should let him loose on the world. Bishop Warburton, in a note to one of his works, speaks of a person who thought he was converted into a goose-pie; and Dr. Arnold saw a man who fancied himself in the family way. Even the celebrated Pascal was the subject of a false delusion, and was so entirely impressed with the apprehension of being on the edge of a precipice that was before him, that he insisted on being tied into his chair. This was, as Shakspeare forcibly expresses it in Macbeth—

> ————————" A false creation
> Proceeding from the heat-oppressed brain."

Very many highly interesting instances are detailed in Dr. Conolly's "Inquiry into the Indications of Insanity," all tending to show how persons may be deranged on *one* or more subjects, while the rest of the faculties are sound; or how they may be deranged on *every* subject,—in which case they display a wild association of ideas and inconsistencies.

Their *Propensities* also break forth in exaggerated disorder, and the depravity of their feelings is often variously manifested, whilst their intellectual faculties are comparatively little affected. They have sudden impulses, and probably destroy their children, or their nearest relations, or their sovereign, and with, perhaps, the best possible intentions. A strong instance of this occurred in the person of Hatfield, and with which I will conclude this catalogue of examples; but it is combined with such an extraordinary instance of memory, that it is deserving of record. The late Mr. Baron Garrow asked me, in the year 1825, to visit Bedlam with him. On entering the hospital accompanied by Mr. Wright, the resident medical attendant at that time, and hearing from him that Hatfield was still there, and that we should see him, Baron Garrow cautioned us not to mention his name, observing at the same time that he was counsel for the prosecution on Hatfield's trial, although from the circumstance of twenty-five years having elapsed, and his never having seen the prisoner either before or since that time (and then, of course, only in his wig and gown), it was not to be expected that he should be recognized. Scarcely, however, had we been three minutes in his apartment, when Hatfield, fixing his fierce eye upon the judge, asked him if his name was not Garrow? On being answered in the affirmative, Hatfield said, "Then, sir, I have one favour to ask of you, which is, that as you were instrumental to getting me imprisoned here, you will exert yourself to get me set at liberty!" Garrow then asked him why he had committed this act of high treason on a king who was so highly respected and beloved? To which Hatfield replied, "Because I wished to make a *God* of him!" Many parents have murdered their children from similar infatuations, or to rescue them from a sea of sublunary cares and privations; and the newspapers of the present day have been recently stained with some of these unnatural records.

In very many instances the seat of irritation appears to be in the cerebellum; and all feelings of morality and decorum are prostrated at the shrine of concupiscence. This form of the disease generally leads to a state of fatuity, and terminates in epilepsy, convulsions, and paralysis. In cases of insanity generally, but perhaps more especially in cases of this character, I have observed a peculiar effluvium to proceed from patients; so much so, that were I to be unconsciously placed where several are congregated, I could at once detect my position. This peculiarity does not appear to be generally noticed by authors, and may probably be occasioned by the influence of the disordered brain on the secretions, unconnected with any want of cleanliness.

To enter into all the divisions and subdivisions of different authors, in their attempts to classify the various forms in which insanity presents itself, would be a work of supererogation in a lecture, and a tedious occupation of attention and of time. Regnault, in his "Competence des Médecins," says—"Les médecins ont voulu classer les Nuances de la Folie, c'est à dire des choses aussi peu susceptibles d'être classées que les Nuages! Quel en a été le resultat? C'est que des mots Grecs ont été substitues à des mots Français, intelligibles pour tout le monde, et des idées contradictoires reunies dans le même mot!" Medical jurists usually class the different forms under the four heads of Mania, Monomania, Dementia, and Idiocy. Nevertheless, medical jurisprudence too frequently enters into subtilties which only serve to perplex a jury, who, from never having given their attention to mental pathology, are of course entirely ignorant of its varieties. These distinctions are occasionally required on a cross-examination by a barrister, with a view to obtaining a verdict for his client, by ingeniously upsetting the evidence which has been elicited by the opposite counsel: he endeavours to entangle the medical witness in the snare of *Definition*—a Charybdis in which the unhappy victim will in all probability be swamped,—"a question which," Dr. Paris observes, "a medical witness is always called upon to answer," it being very difficult to define the invisible line which divides perfect and partial insanity; or he runs him upon the rock of *lucid intervals*.

"To constitute insanity it is not necessary," as Dr. Male says, "to exhibit the ferocity of a wild beast, nor to perform the antics of a buffoon;" *they* speak for themselves. The grand question in a court of law is to decide whether a party be of sufficiently sound mind to manage his property; or (on being tried for murder or other violation of the laws) whether he was conscious of the crime he was committing—whether (in other words) he was in such a state of mind as to render him a responsible agent. The verdict (according to Sir Matthew Hale) "must rest upon circumstances duly to be weighed and considered, both by the judge and jury, lest, on the one side, there be a kind of inhumanity towards the defects of human nature, or, on the other side, too great an indulgence given to great crimes."

That it frequently requires close study, acute perception, great tact, and considerable experience, to arrive at a just discrimination, must be admitted by every one. In addition to which, several interviews may be indispensable before a physician can give a satisfactory opinion; for lunatics are extremely cunning. Many have lucid intervals (excepting in a state of utter idiocy or imbecility), and their state of mind varies under different circumstances and positions; so much so that a commissioner would incur a heavy responsibility who should decide a testamentary dispute, or subject a criminal to execution, or even discharge a patient from confinement, without ample previous opportunities of interview and investigation. The physician must adopt his own plans for the attainment of what is required of him, and may bear in mind that which was suggested by Shakspeare in Hamlet:—

> ———————"Bring me to the test,
> And I the matter will *reword*, which *madness*
> Would gambol from"—

a test which Sir Henry Halford states that he found efficient, and which he instances in his Essay on the subject. Professor Taylor also wisely observes, in speaking of wills made by old persons, where, in consequence of alleged imbecility, some disappointed expectant has disputed the will:—"If a medical man be present when the will is made, he may easily satisfy himself of the state of mind of the testator, by requiring him to repeat from memory the way in which he has disposed of the bulk of his property. If a dying person cannot do this without prompting or suggestion, there is reason to believe that he has not a sane and disposing mind." (p. 660.)

In cases of murder, the fashionable plea of insanity or monomania is constantly adopted by the counsel for the defence, and in a great majority of instances with success, partly on the score of humanity, and partly in consequence of the prevalent modern antipathy to punishment by death. It is not, of course, my province to enter on a discussion of the validity of this perpetual plea. Each case must rest on the individual facts which appear on the trial. Justice should not, however, succumb to misplaced lenity, or to legal ingenuity; nor should a mawkish consideration for the murderer rescue him from the atonement which the bible authorizes and the legislature demands.

In alluding to the plea of Monomania, many persons consider it to be a state in which the mind is perfectly sound except on one particular subject; and this construction would appear occasionally to have been substantiated by cases which have been recorded. The barrier, however, between sanity and insanity is not so entire but that some few breaches may be detected. It is, in fact, only a species of moral insanity; but the erroneous impression on one particular point is so strongly marked, as to throw the general character of the mental alienation in the shade. The mind is concentrated on one object or train of ideas so that the insanity is partial. It manifests itself sometimes in a propensity to theft, sometimes to arson, sometimes to homicide; and the subjection of such a criminal to legal punishment must depend on the general evidence of consciousness of action.

Some persons are only guilty of felony when under the influence of spirituous liquors, and then become dangerous to society. A question naturally presents itself whether such person can be legally detained in an asylum. I have known several instances of this; and a patient is at this time under confinement in one of the asylums of which I am the visiting physician, who attempted to murder his wife, but in whom no evidence of insanity is discernible under the regimen and diet of the institution. A prisoner is now in Chelmsford gaol, and has been there for the last fifteen years, for murder, under the influence of intoxication and passion; and though he was acquitted at his trial, on the ground of insanity, he never evinces it now. If, however, a man, under the influence of ungovernable anger, has either taken, or attempted to take, the life of a fellow-creature; or, if prone to intoxication, and when intoxicated, his self-control and reason are not sufficient to restrain him from homicide, public safety demands his confinement. He subjects himself, when at liberty, to one of the leading physical causes of insanity, and becomes insane, being only sane during the lucid intervals of sobriety. Such subjects, Baron Garrow told me, ought undoubtedly to be under restraint.

To return, however, from this digression on medical jurisprudence, let us take a short view of mental pathology: and here Science receives a check, and Philosophy is staggered—for whilst extensive necroscopic examinations furnish a vast variety of disease in the encephalon of the lunatic, many instances of confirmed and protracted insanity can be adduced, in which no vestige of disease could be detected, and where all the ravings and distorted features of this fell disease have passed away,

> "And, like the baseless fabric of a vision,
> Left not a wreck behind!"

How is this? Has the perturbed tenant left its cell without injuring its material encasement? Has the sword lost its edge, and rusted in its scabbard, without the scabbard participating in the ravage of time and circumstance? What can we say in answer to this query, than that

> "There are more things in heav'n and earth
> Than are dreamt of in our philosophy."

Amongst the principal diseases of the brain in the subjects of insanity, are—evidence of inflammation and its sequelæ in the tunica arachnoidea and pia mater, viz.: thickenings; serous infiltration; and more or less vascularity; injected state of the brain and its convolutions; morbid changes both in its cortical and medullary substance, with increased firmness of consistence of both. In others, a softening of its substance; serum in the lateral ventricles; changes in the nerves proceeding from the brain; the bones of the cranium thickened, and harder than is usual, with inequalities in the cranial cavity; alterations in the structure of the pineal gland and the annular protuberance, &c. Many other appearances have been represented as existing; for, as has been observed by Esquirol, "The inspection of bodies of lunatics offers numerous varieties as to situation, number, and kind of morbid appearances. The lesions of the encephalon are, however, neither in relation to the disorders of the mind, nor to the maladies complicated with it. Some lunatics, whose mental and bodily disease had given suspicion of extensive organic lesion, have presented but slight changes of structure in the brain; whilst others, whose symptoms had been less severe, have been the subjects of great and numerous alterations. But what disconcerts all our theories (he adds) is, that not unfrequently, even in the instance of patients who have passed through all the stages of insanity, and have lived many years under derangement, no organic changes whatever have been traced, either in the brain or its containing membranes."

Dr. Millingen expresses himself of the same opinion, and still farther observes:—"All the organic lesions found in the insane may be also observed in subjects who had been free from mental alienation!"

Dr. Haslam details the morbid appearances on the dissection of 38 cases, in *all* of which there was more or less structural disease. Mr. Lawrence detected the same in 100 consecutive cases that came under his inspection at Bethlem. Mr. Davison, the house-surgeon at the Lancaster Asylum, after a careful examination of more than 200 patients who died in that hospital, says that he scarcely met with a single instance in which traces of diseases in the brain or its membranes were not evident: the pia mater and the cortical substance were the parts most frequently diseased. Dr. Conolly is (I believe) of the same opinion.

It would be easy to recount an extensive catalogue of anatomists and pathologists who have favoured us with the results of their researches, and with their comments and inferences. Martinet appears to have connected the symptoms which have manifested themselves during life with the appearances which have presented after death as clearly and concisely as most authors.

In cases of insanity consequent on physical causes, such as inebriety, blows on the head, &c. it is most probable that they arise from a greater or less degree of inflammation of the brain or its membranes; and so far I entirely agree with Bayle, to whose authority, from his researches and practical knowledge acquired at the asylum at Charenton, much respect is due; and that such cases, when early submitted, yield to the treatment, in accordance with his theory, is a strong proof of its correctness. Dumas, Calmeil, Vogel, and other high authorities, entertained similar opinions. Hatfield was acquitted on the plea of insanity referred to a wound in the head, which he received in action. For this reason, when it can be established, in cases of murder or felony, that the culprit has formerly sustained a wound or injury to the brain, an acquittal on the ground of insanity for the most part follows. The well-known consequences also of inflammation, which so frequently are observed in post-mortem examinations, such as vascularity, thickening, effusion, &c., corroborate the connection of insanity with what he terms Meningitis. But irritation may also produce it in a high degree, and yet leave no visible vestige. We know that excruciating pain attends neuralgia, and yet no organic lesion in the nerve affected is discoverable; and, inasmuch as the nerves are processes of the brain, surely the analogical inference may be admitted.

Functional disorder may exist in any organ without structural lesion; but although anatomy may shed no light, nor reveal its cause, the *existence* of disorder is not to be discredited.

There may be a maniacal *Diathesis* as well as a gouty or scrofulous diathesis; and where the disposition is hereditary, this is most probably the case,—and then a slight cause will be productive of its manifestation.

Failing to demonstrate the union of insanity solely with cerebral disease, many pathologists sought for elucidation in the viscera; and the præcordia, the intestines, the liver, the spleen, the uterus, &c. have in turn sustained the etiological imputation; and some modern authorities refer it to the vascular system. Pinel himself considered the abdominal viscera mainly implicated, whilst others assign it to the ganglia and sympathetic system.

I have already alluded to the action of gastric irritation; and the fact that hypochondriasis, melancholy, and even suicide, result from the depression contingent on hepatic affections, cannot be doubted or denied. The frequency of diseased liver in lunatics has been often noticed in the autopsy of lunatics; this may, however, have been sometimes simply the result of that system of intoxication which has terminated in madness, and so extensively induced it.

In treating on Lunacy, and inasmuch as its etymology would seem to convey that the moon exercises an influence on the disease, and as the question is frequently mooted, it may not be irrelevant to offer a transient notice of it to your attention. It has certainly been generally admitted that the changes in the weather and in our system are connected with those of the moon—an opinion which, whether true or false, might naturally originate with men who were necessarily most attentive observers of every thing associated with lunar changes, when lunar changes were their sole almanac. In an unlettered age they regulated the movements of the shepherd's life; and whole tribes worshipped this "queen of heaven" with abject veneration, as presiding over every atmospheric phenomenon; and their opinion of her influence over our earth was probable and natural. That the moon has an effect on the tides of the ocean is undisputed; and surely it is reasonable to suppose, *à priori*, that an influence so powerful as this must also have an influence over atmospheric changes; and to this day (whether or not arising from an indirect operation of the moon) changes of weather more frequently are observed to occur at certain lunar periods than at other times. It is ascertained that the mean barometrical pressure attends the first and last quarters, while its extremes accompany the new and full moon. The electroscope also indicates corresponding changes; and from the observations made by Dr. Allen, of the York Asylum, and subsequently of High Beech, amongst hundreds of insane patients for a series of years, he told me that he arrived at the conviction that an excited and unsettled state of mind prevailed more, on an average, at these times than at any other. Lunar phases are by many thought to influence EPILEPTIC lunatics, but not to act upon cases of mania or dementia. Shakspeare says:—

> "Sure 'tis an error of the moon, that comes
> Nearer unto the earth than she is wont,
> And makes men mad!"

We spoke (in the first lecture) of the effects of atmospheric electricity on the nervous system,—and though I willingly concede that the influence of the moon, through the medium of any change in the mechanical pressure of the atmosphere, is so inconsiderable as not to repay us for the trouble of its investigation, yet even this lunar influence is admitted by the best meteorologists of the day. There are few, however, who give much credit to the influence of the moon on insane patients.

The relative proportion of male and female lunatics is a question which naturally presents itself when the subject of insanity is before us; but a difference in opinion prevails in this as well as in most things, and the comparative frequency appears to vary in different countries. In Great Britain the proportion gently inclines to males. In France to females. In Germany to males. In London and Middlesex to females. In the sum total of lunatics in the Asylums of various parts of the civilized world, Esquirol calculated 37,825 males, and 38,701 females: the equality is remarkable,—but when the causes of respective liability are considered the balance appears to be equal, for although the nervous susceptibilities of women may subject the softer sex to a greater incursion of moral insanity, the proneness to inebriety in man (acknowledged, as it is, to be so frequent a physical cause) would give them the predominance. Alienation of mind is observed, however, at an earlier age in females, and the uterine functions undoubtedly subject them to a large exclusive additional liability: they are also more under the influence of superstition, and emotion from different causes; but then their minds are less subject to the ravages of speculation and perplexing pecuniary negociations, intense thought, and its anxieties. The predominance of the malady in men in *England* may be partly attributable to the women being more soundly and religiously educated, to their being more domestic, and less subjected to the excitements of gaiety and mixed society than in France. On this principle it may be explained why celibacy presents a preponderance of lunatics over persons in married life. When persons are married, *Le jeu est fait!* and therefore they are more settled, and exempt from those hopes and fears, those disappointments and anxieties, which are a perpetual source of excitement to the young and single, who have not yet turned over the principal leaf in the book of life. The statistics as to the ages in which insanity prevails, (which is from 20 to 40), may moreover be admitted in evidence of the prevalence of passion and emotion as inducive of mania.

It may be difficult, however, to say at what age reason usurps her way over passion, and subjugates her. Suffice it to observe, that few objects are more revolting than "the silver livery of advised age," so polluted with morbid juvenile propensities.

> "Possent ut juvenes visere fervidi
> Multo non sine risu
> Dilapsam in cineres facem."

This is, however, not an infrequent type of *senile insanity*. As a general rule it may be held that mania in all its forms of excitement appears chiefly in early life, melancholia in middle life, and dementia towards the close: the form of insanity varing much with the respective temperament of the individual, and mostly imbued with the hereditary taint.

Be this as it may, *our passions* may be *considered the chief causes of Insanity*, producing stimulating or depressing effects, which act most generally both on our physical functions and our mental faculties. This circumstance explains the extreme rarity before, and the common prevalence of madness after, puberty, when our relative social condition exposes us to the influence both of our natural passions and their artificial aberrations. When intensity of thought has brought on incoherence, such a confusion prevails in the mental impressions, that no distinct recollection of former circumstances appears to exist. Hence the fact, that subjects who have been insane from disappointment in their fondest attachments rarely mention the name of the object of their love. When they do recollect the person's name, and *appear to be grieved* when it is mentioned, (however violent their outbreakings may be,) we may entertain the most sanguine hopes of recovery. A young man, the only son of his widowed mother, and to whom he was most piously attached, was suddenly restored to sanity on being loudly and abruptly told that his mother was dead! He burst into a flood of tears, was awakened to a sense of his temporary delusion, and reason regained her seat. The sensorium in mania is so susceptible, that violent action may restore sanity or may extinguish vitality: but such sudden terminations are rare occurrences. The duration of it is extremely various. It may remit, or intermit, and these durations of excitement constitute what are termed "lucid intervals." The patient appears to be restored, but the ray of light is often transient and fallacious. It is nevertheless cheering to observe the light of reason breaking in upon the benighted mind, evincing as it does, that though reason may have abdicated her throne for a while, her restoration is not only probable, but at hand.

After a careful consideration, it appears, as Dr. Burrows observes, that the prognosis may be summed up in the following order.

Recovery may be anticipated in proportion to the youth of the patient, and the recentness and comparative mildness of the attack.

The chances of recovery are greatest in the first attacks, and diminish with each subsequent invasion, and with the duration of the disease and advanced age of the patient.

Mania is cured most frequently—next, melancholy and monomania—lastly and the least, dementia and fatuity.

Melancholia is difficult of cure in proportion to the degree of depression—a dread of poverty, of poison, and perverted ideas of religion, indicating an obstinate disease.

Chronic insanity seldom recovers.

Puerperal mania generally.

Insanity with a propensity to suicide is a favourable form, if recent, and coming under early treatment.

Acute dementia is curable—chronic dementia and insanity not so.

Hereditary predisposition protracts and diminishes the chances of recovery, but does not entirely prevent it.

Relapses are, however, more to be expected when it exists.

An amendment of personal appearance attended by improvement in mind, indicates recovery.

When the insane preserve or acquire all their physical functions, and eat and rest well, presenting their usual appearance *without recovering their faculties*, recovery is hopeless.

Insanity caused by excessive study, by the slow operation of moral emotions, or attended by hallucinations, by pride, &c. is seldom cured.

Complications with apoplexy, palsy, and epilepsy, are incurable and fatal.

Men are more liable to relapses than women, and one half of all relapses occur in the first 3 months after recovery.

Original Communications.

ON SCROFULA OR STRUMA;

ITS NATURE, VARIETIES, CAUSES, AND TREATMENT.

By William Smith,

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> ————" Licuit, semperque licebit
> Parcere personis, dicere de vitiis."—Horace.

[Continued from page 817].

At the close of my last communication I endeavoured to enumerate some of the predisposing and exciting causes calculated to call into action the disease of hydrocephalus in children of the strumous diathesis. In the essay on scrofula by Dr. Shapter, referred to in my last paper, are the following remarks:—" There can be no doubt, however, that temperature and moisture combined exert a considerable influence on health. A temperate and moist climate presents that condition which, from its changeableness, is likely to be a source of disease generally, but especially of the disease under discussion. At the same time, the department of Picardy, where such a climate exists, is not prolific in cases of scrofula, excepting among those whose occupations confine them to their houses. Baudelocque, to whose views we shall presently refer, attributes its origin to the inhaling a vitiated air, and very ingeniously observes that these climates induce the building of small and ill-ventilated houses—whence the disease; that its absence is accounted for in warm climates by the inhabitants being chiefly in the open air; and in cold latitudes, by the great and effectual changing of the air, caused by the general use of fires in the rooms inhabited, so that the consequences of a vitiated atmosphere are avoided. That a vitiated atmosphere exerts some influence in the production of scrofula is an opinion that has been entertained by many. Baudelocque devotes a large portion of his work to show that it is exclusively the exciting cause. " The occurrence of scrofula is always preceded by a residence, more or less prolonged, in an atmosphere which is not sufficiently renewed. This cause is the only one to be met with, whether isolated, or united to conditions whose action is only secondary." Without taking so exclusive a view of the origin of this disease, many circumstances give much ground for supposing this cause very influential. The poorer classes of large cities, who are frequently subjects of its ravages, notoriously live in rooms and situations which are not well ventilated; and Richerand states that a considerable proportion of scrofulous cases which are admitted to the Hôpital St. Louis come from those quarters of Paris where, from the height of the houses and the crowded character of the district, there can be but a limited supply of fresh air; and that at Troyes, in Champagne, where many circumstances combine to make the atmosphere close, scrofula exists to a great extent. Baudelocque attributes the occurrence of the disease in the upper classes to the confined sleeping-rooms they often occupy, the length of time passed in bed, and the not infrequent custom which children have of sleeping with the head beneath the bed-coverings, or deeply buried in a soft pillow. At Bourg St. Andreol it would appear that a vitiated atmosphere is the chief, if not the sole, origin of the disease. The air, water, and food, are good; its situation is healthful; and there appears so little cause to account for its origin that Madier is induced to attribute its frequent occurrence there to the presence of strangers. It is, however, stated that the streets are narrow, the houses high; and that, besides these causes of a want of ventilation, the air is vitiated by the effluvia emanating from domestic animals which they keep in courts attached to their houses, and from silk-worms, which are fed in great numbers within doors. Alibert observed that, at Mende, those workmen employed in the woollen manufactory and confined in close rooms are frequently afflicted, while those in open shops enjoy an immunity. The same is observed by M. Regnault to be the case at Aubigny; but the most conclusive fact in favour of this view occurred at a village called Oresmeaux, about nine miles from Amiens. It is situated in a large plain, exposed on all sides, and about one hundred feet above the level of the neighbouring valleys. The houses, built in the earth, lighted by one or two pieces of glass fixed into the walls, with floors some feet below the level of the soil, and low ceilings, were ill ventilated in the extreme. Nearly all the inhabitants of this little village were afflicted with scrofula. A fire destroyed it; it was rebuilt by houses of a more airy description; since which time the disease has gradually subsided. It may now be said to have disappeared from that part of the country." That damp, filth, bad ventilation, want of proper light, and irregular modes of living —such as are frequently, nay, almost generally, practised by the population occupying the back streets, alleys, and cul-de-sacs of our crowded and densely-populated large cities, have a decided tendency to produce hydrocephalus, and, in fact, every variety of scrofulous disease, is an opinion which few men of large medical experience will be disposed to deny. During my pupilage in London, it happened that myself, in connection with a fellow-student of Guy's Hospital, took upon us (by turns) the duties of house-surgeon and dispenser to the "Royal Infirmary for Diseases of Children," in the Waterloo Road, both of us residing upon the premises. Properly speaking, it is only a dispensary, no beds being made up for patients, owing to want of sufficient funds; although there is ample room and verge enough to accommodate from 60 to 100 patients. My friend or myself, after having dispensed briskly for two or three hours daily—the physicians and surgeons meanwhile being seated in their respective rooms for consultation—were generally required to visit some of the worst cases in the neighbourhood, often in those wretched filthy streets and courts about the Victoria Theatre, where vice and filth abound. In such a rich soil we cannot but imagine that diseases of a scrofulous character — such as hydrocephalus, purulent ophthalmia, tabes mesenterica, &c., would prevail. It is now more than twelve years since; but I distinctly recollect that both my fellow-student and myself were struck with the fact that the diseases of these children proved extremely intractable to ordinary remedies, and deaths amongst our little patients were "neither few nor far between." We might fairly wonder at the change, as we had both come up to London the previous medical session from purely agricultural districts in Lincolnshire, where the population was widely scattered. If I mistake not, Mr. W. C. Dendy, of Great Stamford Street, Blackfriars, has found this a rich field for observation, and in a practical treatise "On the Diseases of the Skin in Children," turned such knowledge to good account. Were the public sufficiently aware of the lamentable consequences arising from filth, bad ventilation, improper diet, &c., and their liability to produce scrofula, and thus taint the constitution of their progeny, they would more frequently have resort to preventive measures, so as to check the outbreak or actual incursion of disease. Then, again, on the important subject of marriage, how often do we find persons in full vigour, and of sound physical conformation, allying themselves, for the sake of money, good family connection, or other sordid views, with persons whose very form and appearance indicate a strong scrofulous diathesis, even if they do not exhibit indubitable marks of scrofula itself. Dr. Shapter, in the essay before referred to, remarks, on the subject of prevention,— "There are three points to be particularly attended to in the prevention of scrofula: 1. Where a taint of the disease evidently exists in the mother, that the state of her health during the period of utero-gestation should be regarded with the most jealous care. 2. That on the birth of the child, if either parent should have strumous predisposition, prophylactic means must be resorted to during the early years of life. 3. In cases where there is no hereditary predisposition, but locality or other external agents appear the sources of the disease, these must be obviated. Females are not, for the most part, sufficiently impressed with the influence exercised by their own state of health during pregnancy on the offspring they are carrying. This applies generally: but when the system is imbued with disease, the fœtus is in a condition to receive any morbid impression much more easily. It would be useless here to lay down any series of rules. Particular stress, however, may be laid upon the necessity of sufficient clothing, exercise in the open air, avoiding heated rooms and late hours, and abstaining from an indulgence in a full, stimulating diet. On a child being born of strumous parents, every means should be taken, as regards food, air, clothing, &c., to strengthen the general health, and to counteract the hereditary tendency. Should the father only be imbued with the strumous habit, and the mother in every way a proper person to nurse her own offspring, the infant should by all means derive its nourishment from her in preference to a stranger. If, however, the mother be scrofulous, a young healthy nurse should be substituted, and for the first six or seven months the infant should be entirely nourished from the milk so afforded; in the succeeding three or four months the addition of other light and nutritious food should be resorted to, in addition to that of the breast.

"It is absolutely necessary that the wet nurse should not have given suck to her own child above a few weeks, or rather days, previous to the one she is to nurse; and during the whole period of her supplying milk, she, as well as the infant under her charge, should occupy large and airy rooms, and should take regular exercise in the open air, attending especially to the state of the digestive functions. A very common error prevails, that women, during the time they are fulfilling this function, should take in more nourishment than is their usual custom, and that it should be of a more stimulating and heating nature. About the age of ten months, or, at the latest, twelve, the infant should be weaned. Nothing conduces so much to produce a feeble frame of body as protracting the period of nursing. The milk, after twelve months, becomes poor and innutritious, causing in the child fed with it flatulence and indigestion.

"The food at this period should, in great measure, consist of cow's milk, together with light nutritious matters taken from the vegetable kingdom, with some very slight addition of broth. Dr. Paris stro[illegible] recommends milk impregnated with the fatty matter of mutton suet. It is prepared by enclosing the suet in a muslin bag, and then simmering it with milk. Where it is an object to introduce much nutritive matter in a small space, he is not acquainted with a better form of aliment (On Diet, p. 220). Dr. Cumin, who has made trial of it, fully bears out this recommendation, and says that it has a near resemblance to goat's milk, but that it has the advantage of being more astringent. He found it to be very useful in cases of scrofulous marasmus, when almost every other article of diet caused irritation of the bowels, and passed through them undigested.

"The clothing of infants is of great importance. Dr. Edwards has shown that they neither have the temperature of adult age, nor enjoy the power of generating heat to the same extent. The practical applications which result from his observations are of the highest importance. He says, with great justice, that if the attentions which children require in climates and seasons little favourable to the preservation of their existence were generally understood, and put in practice, it would considerably reduce one of the most powerful sources of mortality affecting that age in our climate. (This doctrine applies with equal, if not tenfold force, with regard to lunatics of every age.—W. S.) Cold operates much more generally than is supposed, and often affects the constitution most seriously, even when its effects are not manifested by any immediate sensations. They do not feel the cold, but they have an uneasiness or an indisposition, which arises from it; their constitution becomes deteriorated by passing through the alternations of health and disease, and they sink under the action of an unknown cause. It is the more likely to be unknown, because the injurious effects of cold do not always manifest themselves during, or immediately after, its application. The changes are at first insensible: they increase by the repetition of the impression, or by its long duration; and the constitution is altered without the effect being suspected" (Edwards, op. cit. p. 205). In those countries where, from the degree of cold, its effects are more sensible than with us, the necessity of guarding their children against its influence is fully appreciated. The result is, that, in these colder climates, this agent is a less frequent cause of mortality than amongst us.

At the same time that it is necessary to watch the progress of the seasons, and to guard against the injurious effects of their climate, it is also of consequence to promote that state of the system which is favourable to the generation of animal heat, in order to compensate for the abstraction of it by radiation, the temperature of our climate always making this a condition of our existence. This is effected by maintaining the organs of respiration and circulation in a state of vigour. The chief means which we have of promoting this are exercise in the open air, living in apartments where ventilation is good, and the maintaining a healthy condition of the surface of the body: immersion in cold water is useful to this end.

"The importance of fresh air cannot be too strongly inculcated. The rooms occupied by those of a strumous tendency should be large, airy, well-ventilated, and not over-inhabited: of all things the child should not be confined in a cot or bed surrounded by curtains. The child of a country labourer, with everything against him, except that he enjoys fresh air, exhibits a vigour of health and appearance that is in vain looked for in those nurtured in the confined atmospheres of the nursery. Fresh air gives tone to the skin, vigour to the respiration, and conduces in great measure to a healthy state of the digestive organs. As the infant advances to childhood, the same general rules are to be followed out. New faculties, however, come into play, whose progress should be watched with the most jealous care. The development and management of the mind requires a constant surveillance. Parents are too apt to be led into error by the precocity of mind inherent in many of this constitution, and, in place of curbing it, they excite its development at the expense of the bodily health. Nothing can be more injurious in the early years of life than that forced system of education which prevails at the present day,—the head is developed at the expense of the body, and a child thus brought up presents the appearance of a weakly frame with precocious intellect. Eventually, however, these hopes are disappointed; for that state of intellect, which should only have been the accompaniment of after and more mature years, fades into weakness and irresolution as manhood advances, — that very period of life when the independence of intellect is required. A child with a scrofulous diathesis should learn its lessons in the fields, and not be bound down to books in the crowded atmosphere of a school-room. Amongst boys there is some relief and antidote to the disadvantages of the school system in the hours of exercise and free enjoyment, both of body and mind, when out of school. The whole period, however, of female school education is fraught with conditions the most obnoxious to the strumous constitution. Their rooms are generally confined and ill-ventilated. The use of stays, bands, and strings, prevents the free exercise of the muscles. In school and out of school it is one system of drilling and exhausting attention, either to mental or external qualifications; and the natural positions of the body, which are occasionally assumed to relieve the exhaustion of constraint, are reproved as unseemly and unlady-like. Then, again, the course of study is so copious and extensive, that the energies of the mind are weakened by a succession of ever varying impressions.

"Another point to be attended to particularly is the state of the moral feelings. Should they naturally be excitable, control must be exercised, but of that quiet and unsuspecting kind as not to irritate and wound. Children at an early age are much more susceptible of moral impressions than is generally supposed. On the other hand, should their tone be of a morose or apathetic nature, means should be taken to excite them to cheerfulness and activity."

These sound and judicious remarks I am of opinion cannot be too widely disseminated; for they are true to the life, and drawn with a most graphic pencil.

In the cases of diseases amongst children presented daily to our observation as medical practitioners, the mere drug-dispensing and subsequent drug-swallowing department of our duty, are, or ought to be, very minor considerations; and yet I fear there are, even in the regular ranks of the profession, but too many practitioners who trouble their heads very little, if at all, about such powerful adjuventa as diet, regimen, air, exercise, &c. Provided the child do but swallow, or even spit out again, a goodly array of powders, electuaries, mixtures, &c. &c., it little troubles them whether (if the child be at the breast) the milk be of good quality, and sufficient quantity, and the mother duly attentive to her own ingesta and egesta, hours of exercise, regular mode of living, and last, though certainly not least, exercising a due control over her appetites and passions; or, if the child be more advanced, whether it take regular exercise in the open air, be warmly clad, be provided with plain, nutritious, and unstimulating diet, and breathe the atmosphere of a moderate-sized, cleanly, and well-ventilated sleeping apartment, in an un-curtained bed not encumbered with too much clothing. Many a gentleman's hunter or favourite hack is better cared for than the children of the lower orders.

But there is likewise imminent danger to children of the strumous diathesis from over-training, — that is, exacting too much from the delicate, and therefore highly excitable, brain of childhood. This, probably, does not very frequently occur in children of the lower orders; but parents in the middle and higher ranks of society often materially injure their children by shutting them up too many hours in the school room: this will inevitably set up some sort of irritation injurious to the child's welfare, by depriving them of the means of getting rid of that accumulated excitability or mobility so inherent in growing children, and which nature readily finds free vent for in the gambols and playful frolics so peculiar and delightful to witness in childhood. In an excellent little treatise written by Dr. Amaziah Brigham, of New York, and published in this country with notes by the late Dr. Macnish, are some very sensible remarks bearing upon this point. At page 52 he observes:—"I have repeatedly seen cases very similar to the above, as to the symptoms in connection with scrofulous diseases and premature development of the mind. Dangerous forms of scrofulous disease among children have repeatedly fallen under my observation, for which I could not account in any other way than by supposing that the brain had been exercised at the expense of other parts of the system, and at a time of life when nature is endeavouring to perfect all the organs of the body; and after the disease commenced I have witnessed with grief the influence of the same cause in retarding or preventing recovery. I have seen several affecting and melancholy instances of children, five or six years of age, lingering awhile with diseases, from which those less gifted readily recover, and at last dying, nothwithstanding the utmost efforts to restore them. During their sickness they constantly manifested a passion for books and mental excitement, and were admired for the maturity of their minds. The chance for the recovery of such precocious children is, in my opinion, small when attacked by disease; and several medical men have informed me that their own observations had led them to form the same opinion; and have remarked that in two cases of sickness, if one of the patients was a child of superior and highly cultivated mental powers, and the other one equally sick, but whose mind had not been excited by study, they should feel much less confident of the recovery of the former than of the latter. This mental precocity results from an unnatural development of one organ of the body at the expense of the constitution, and is thus explained by two of the most celebrated men of the medical profession:—'It is a fundamental law of the distribution of vital powers,' says Bichat, 'that when they are increased in one part they are diminished in all the rest of the living economy; that the sum is never augmented, but that they are necessarily transported from one organ to another; and therefore, to increase the powers of one organ, it is absolutely necessary they should be diminished in the others.' "Extra development and sensibility of the brain,' says Dr. James Johnson, 'cannot take place, but at the expense of some function or structure in the animal or organic system; when, therefore, an undue share of the vital energy of any individual is directed to a particular organ or system, a proportionate subduction is made from some other organ or system; and this is a most undoubted and most important truth, which is little understood, and less attended to by the world in general.'

"It is thus that a child is made an intellectual prodigy. The premature development of mind is owing to the premature development of the brain, occasioned by undue excitement, and the robbing of other organs of their natural share of vital energy. But, as Dr. Johnson says, this is a truth little attended to by the world in general. Most parents are ignorant of it, and are generally anxious for the early cultivation of the minds of their children. To effect this object they are assisted by teachers, who undertake, with the aid of books, maps, machinery, and pictures, to make children of only a few years of age understand a vast many truths in chronology, history, geometry, and many other sciences, to mature very rapidly their understandings, and surprisingly quicken their reasoning powers. And when a child, from much instruction, or from disease, has reached this superior mental condition, memoirs and anecdotes of his life are published (for such children seldom live many years) for the sake of instruction and example. Such publications have been extensively circulated; they have been greatly approved, and probably have had much influence with parents in the education of infants.

"Much of the thoughtlessness of parents, regarding the injury they may do their children by too early cultivating their minds, has arisen from the *mystery* in which the *science of mind* has been involved, and ignorance of the connection between the mind and body; for we find them exceedingly anxious and careful about the health of their children in other respects. Entirely forgetful of the brain, they know there is danger in exercising many other parts of the body too much when they are but partially developed. They know that caution is necessary with children in respect to their food, lest their delicate digestive organs should be injured by too exciting and stimulating regimen. A parent would be greatly alarmed, if his little child, by continued encouragement and training, had learned to eat as much food as a healthy adult. Such a prodigy of gluttony might undoubtedly be formed. The method of affecting it would be somewhat like that of enabling a child to remember, and reason, and study, with the ability and constancy of an adult. Each method is dangerous; but probably the latter is the more so, because the brain is a more delicate organ than the stomach."

In proof of the injurious effects of the system of female education usually adopted in the middle and higher ranks of society, and its liability to produce nervous and spasmodic disorders, curvature of the spine, &c., &c., I cannot resist quoting some excellent remarks of Sir Benjamin Brodie, contained in his short but comprehensive Lectures, illustrative of certain Local Nervous Affections. At p. 74, he says—"You can render no more essential service to the more affluent classes of society, than by availing yourselves of every opportunity of explaining to those among them who are parents, how much the ordinary system of education tends to engender the disposition to these diseases among their female children. If you would go further, so as to make them understand in what their error consists—what they ought to do, and what they ought to leave undone—you need only point out the difference between the plans usually pursued in the bringing up of the two sexes. The boys are sent at an early age to school, where a large portion of their time is passed in taking exercise in the open air; while their sisters are confined to heated rooms, taking little exercise out of doors, and often none at all except in a carriage; then, for the most part, the latter spend much more of their time in actual study than the former. The mind is over-educated at the expense of the physical structure, and, after all, with little advantage to the mind itself; for who can doubt that the principal object of this part of education ought to be, not so much to fill the mind with knowledge, as to train it to a right exercise of its intellectual and moral faculties, or that, other things being the same, this is more easily accomplished in those whose animal functions are preserved in a healthy state, than it is in others?"

As I am most decidedly of opinion that hydrocephalus and other disorders of a strumous character are most commonly met with, and most dangerous in their character, in children of what is termed precocious intellect,—which state is, in truth, simply one modification of the medical Proteus, scrofula,—I will here transcribe a brief extract from an excellent Essay of Dr. W. Busch, of the Sandywell Park Lunatic Establishment, near Cheltenham, contained in the seventh number of Dr. Forbes Winslow's Psychological Journal, p. 436:—"Before quitting the subject of convulsive diseases, the present will be the fittest opportunity of making a few remarks on precocity of mind, for it appears to depend so much upon a similar condition of the nervous system, as to render its classification with those diseases both practical and useful.

"The characteristics of this condition of youth are too obvious to require definition. It is almost always associated with a weak physical organization, and a scrofulous tendency, especially pulmonary consumption, proving the correctness of that popular remark, that a child of this precocious habit 'is too clever to live.' It will be found, too, that these instances of precocity are not indications of general mental vigour, but exuberant displays of one or two faculties only,—such as memory, imagination, &c., and that the other and superior faculties are more or less weak. Children of ten years of age, or younger, may show a wonderful talent for music, or calculating, or any knowledge in which memory alone is concerned,—such as facts of history, citation of poetry, or even languages; but we never find them to present any general mental precocity, in which the higher mental faculties are concerned,—such as invention, judgment, conception, &c.; they merely afford instances of unusual mental acquisitiveness. It must be concluded, therefore, that in all these cases of precocious intellect the real state is one of weakness—a state so apt to be overlooked in the admiration we bestow on the brilliancy of one prominent faculty.

"Although the following appropriate quotation is made from Dr. Wigan's interesting and ingenious work, it must not be inferred that assent is given to his notions of the duality of mind. Speaking of precocious intellect, he observes—'It is not always possible to keep it in check by the most judicious proceedings, for it is generally caused by a preternaturally rapid growth of the convolutions on the surface of the brain, incompatible with great physical vigour; but unfortunately such premature intellectual powers are so flattering to the vanity of parents, that it is scarcely possible to convince them of the danger of their early cultivation. The child learns with such ease, its acquisitions are made with so little effort, that the proud parent cannot believe in the predictions of the medical friend, and spurs the willing steed to leaps beyond his strength, till the brain falls under the effort. Knowing these things, having witnessed the miserable consequences, I could not read the correspondence between William Pitt and his father, without a feeling allied to terror. Never did man go so near to destroy the intellect of his son, by over-excitement, as the Earl of Chatham; 'Courage, my son!' said he, in one of his letters, when the poor lad was complaining of the enormous variety of topics urged upon his attention—'Courage, my boy! remember there is only the Cyclopædia to learn!' William Pitt was near falling a sacrifice to his father's ambition. Great as were his talents, I do not doubt they would have been much greater had they been more slowly cultivated, and he might then have attained the ordinary term of human life, instead of his brain wearing out his body at so early an age. To see him, as I have done, come into Bellamy's, after the excitement of a debate, in a state of collapse, that with his uncouth countenance gave the air of insanity, swallow a steak without mastication, and drink a bottle of port wine almost at a draught, and be then barely wound up to the level of ordinary impulse—repeat this process twice, or, I believe, even three times in the course of the night—was a frightful example of over cultivation of the brain before it had attained its full development. So much had its excitability been exhausted by premature and excessive moral stimuli, that when his ambition was sated, it was incapable of even keeping itself in action without the physical stimulants I have spoken of. Men called the sad exhibition the trumph of mind over matter; I call it the contest of brain and body, where victory is obtained at the sacrifice of life."

In my next communication I propose to offer some remarks upon the subject of Phthisis, or Pulmonary Consumption, and to prove, by extracts from the writings of Latham, Watson, and Graves, of Dublin, that it is never a disease, *sui generis*, or mere local affection; but simply a fragment only of a great Constutional Disorder—viz., Scrofula.

Belper, South Derbyshire,
May, 1851.

ROYAL COLLEGE OF SURGEONS.

GENTLEMEN admitted members on the 6th inst.:—F. Cock—A. Wall—C. W. Roberts—H. M. Davies.

ON THE

PATHOLOGICAL SIGNIFICATION OF SOME OF THE EARLY AUSCULTATORY SIGNS OF PULMONARY CONSUMPTION,

CONSIDERED WITH REFERENCE TO THE PRESENCE OF TUBERCLE.

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Notwithstanding the advances made during the last twenty years in the application of physical diagnosis to the detection of pulmonary disease, and more especially of late to that fell destroyer of so large a proportion of our population—viz., phthisis pulmonalis—I have, with regard to this peculiar disease, been latterly led to imagine that the different combinations under which its physical signs present themselves might be more obviously and usefully connected, each with its own peculiar pathological condition, in such a manner as to bring before the mind of the observer the plurality of morbid changes which take place in the lungs, from the first invasion of phthisis up to its termination; that while directing his therapeutic measures to the constitutional cause of such change, he may (by ascertaining its actual existence) at the same time combat it by more direct and specific means.

In the following observations, however, I purpose to confine myself exclusively to the signification which I would attach to the more delicate stethoscopic signs of pulmonary consumption, appreciable in its early stage, since in the more advanced ones, the sounds heard in the chest almost of themselves reveal the condition of the subjacent tissue; added to which, the frequent opportunities which occur of comparing, on the dead body, the state of the thoracic viscera with the physical signs afforded by them during life, have now rendered the relationship of morbid sound to morbid change fully established in the advanced or even intermediate stages of the disease.

Now, at the outbreak of this affection, such facility of verifying our diagnosis is rarely afforded; opportunities of investigation being few and unsatisfactory. The physical signs, too, of this early stage often vary in a great degree: a different combination may even be said to exist in every individual case; some signs being wanting in one—others in another; such apparent diversity, however, merely arising from the fact, that at this period of the disease there exist certain distinct pathological conditions of the pulmonary tissue, which each may be the starting-point of pulmonary consumption, and either of which may be indicated by a different set of physical signs. Added to this source of difficulty is the fact, that two or more of these morbid deviations may exist simultaneously, thus complicating the diagnosis by the physical signs characterizing the more prominent of the two being capable of overpowering, or at least neutralizing, those afforded by the other, and thus producing a problem not easy of solution.

Before, however, considering in detail the peculiar signification to be derived from such and such a sound heard in the lung at a period when the invasion of phthisis appears imminent, it may not be out of place briefly to consider in what the essence of the disease really consists, and whether its varied phenomena, physical and symptomatic, are one and all to be attributed to that which is so generally conceived to be its first and real cause—viz., the presence of tubercle in the lung. I confess that such is not my view of the pathology of pulmonary consumption in the widest acceptation of the term. That tubercles do exist in the large majority of cases, characterised by all the symptoms of the disease, is undeniable: that they are the primum mobile, or promoter of such symptoms, is, to say the least, extremely doubtful. I am, on the contrary, inclined rather to consider this affection as a scrofulous inflammation of the lung, and to attribute its symptoms to the ordinary results of this process, modified by the peculiar products, which, in the majority of cases, are the results of this peculiar form of inflammation.

It has been asserted by many writers (and more especially by some of the most eminent of the French pathologists) that in no case can tubercles be considered as the product of inflammation; and M. Louis, in his able work on

Phthisis, has brought forward numerous examples to prove the fact. On careful consideration, however, of these cases, it would appear that he has merely proved that an ordinary inflammation, whether of the bronchial mucous membrane or of the pulmonary parenchyma, never tends to the deposition of tubercle. It is needless, however, to say that inflammation is not a process limited to one exact type: true, in its usual form it proceeds generally to the formation of healthy pus, or organizable lymph; but, on the other hand, are not the rheumatic, the gouty, and the syphilitic inflammations, each marked by products of a different character, and by a variety in their symptomatic phenomena? and are we not, then, at liberty to assume that there exist certain conditions of the body of an inferior grade of vitality, with a tendency to a corresponding type of inflammation equally characterized by a similar grade of action, giving rise to the production of a deposit incapable of complete or further organization? Such appears to be the case as regards the deposition of tubercle in very many instances. Not but that, on the other hand, it may happen that this peculiar inflammation will sometimes go on to the destruction of the tissues involved by suppuration and disintegration, while after death no trace of tubercle can be discovered, but only that peculiar kind of product which, in other parts of the body, is denominated scrofulous pus.

Upon this point I may venture to quote the following apposite remarks from so eminent an authority as Dr. Graves. He says:—"The most important thing for the student to impress on his mind with regard to all cases of phthisis is, that the pectoral symptoms, of whatever nature they be, are caused by scrofulous inflammation. If you trace the phenomena of external scrofulous abscesses, you will be struck with the close analogy they bear in their manner of appearance, their progress and termination, to the ulceration of the lungs. The same slowness; the same insidious latency; the same gradual solidification and gradual softening; the similarity of the puriform fluid secreted in each; the analogous occurrence of burrowing ulcers and fistulous openings; the close approximation in the form of their parietes, and the difficulty in healing remarked in both, make the resemblance between them extremely striking." Again, he says,—"I mentioned before that one of the first morbid changes we generally see arising from the scrofulous habit is the formation of tubercular matter. I have also alluded to another of these morbid changes—namely, the production of scrofulous pneumonia, in which we cannot detect the existence of a single tubercle. There is another process in which the scrofulous inflammation is seated in the bronchial mucous membrane. This latter form of phthisis is sometimes associated with phthisical pneumonia, but it often exists without it. Although in this disease the inflammation is seated in the bronchial mucous membrane, it differs very much from common bronchitis: its symptoms are different; it does not run the same course; and it is unlike common bronchitis in its termination and cure: its fever presents all the material phenomena of phthisis—emaciation, and frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted."

Now, if we admit the existence of these different forms of scrofulous disease affecting the lung, either separately or (what is more commonly the case) in conjunction,—namely, scrofulous inflammation leading to the deposition of tubercle; scrofulous inflammation (pneumonia), in which no trace of tubercle is found after death; and scrofulous bronchitis, in which a characteristic purulent fluid is found filling the tubes;—allowing, I say, these three forms to exist, and that either of them may, at its origin, prove to constitute the incipient stage of phthisis, we have then some clue to the diversity in those morbid physical phenomena which are collectively supposed to indicate the disease without specifying its peculiar form; for while the general symptoms may, in all probability, be nearly identical, it is obvious, from the different pathological conditions which must exist in these three varieties, that a corresponding difference in the physical signs must necessarily be present. Thus two cases, equally deserving of the term phthisis, as meaning a wasting away, with destructive disintegration of the pulmonary tissues, may in reality afford a difference in the progress and existence of such signs (more especially at their commencement) in no way to be accounted for but by the admission of a pathological difference in the morbid processes at work in the two cases.

The foregoing observations are made in the conviction that the disease called phthisis pulmonalis is in reality a scrofulous inflammation of the lung; that it is, in the large majority of cases, accompanied by the deposition of tubercles; but that in certain forms of the disease (especially in elderly persons) this is by no means invariable; and that when present, they are the product, and not the real cause of the disease; since all the characteristic symptoms of scrofulous inflammation are identical, whether true tubercle be thrown out or not—viz., low fever, quickened pulse, emaciation, hectic, perspirations, diarrhœa. To be satisfied of this, we have but to compare a case of hip-joint disease in its progress from first to last with one of pulmonary consumption: the analogy will be indeed evident.

It is, however, true that sometimes the deposition of a considerable amount of tubercular deposit may take place in the lung, preceded merely by simple congestion or capillary hyperæmia,—a condition supposed to be always present by Vogel[*] and by Engel;[†] the latter, however, limiting the influence of inflammation to the production of infiltrated tubercle. May not, however, this deposition at so early a stage of the inflammatory action be merely a proof that there exists in persons of an eminently tubercular diathesis, a step short of actual inflammation (viz., simple hyperæmia, sufficient in itself to provoke the deposition of tubercle from its blood-vessels;[‡] whilst in others the process must attain its ultimatum—the true inflammatory condition (of a scrofulous type)—before the characteristic deposit of such type becomes manifest.

Again: it is often alleged that the fact of tubercles (isolated or in masses) being not unfrequently found in the lungs of persons dying of other diseases, in whom the parts occupied by these tubercles, and surrounding them, were to all appearance healthy, is a proof of their deposition being independent of any inflammatory process. I have myself frequently seen tubercles in the upper part of the lung, lying apparently inert, surrounded by healthy tissue; no symptom of inflammatory degradation being appreciable: but the absence of such appearance by no means satisfied me that an early stage of inflammation—viz., hyperæmia—had not preceded the deposition; it rather goes to prove that tubercle does not produce of itself any change in the surrounding parts, and that the suppuration and disintegration of the pulmonary tissue found around it in cases of phthisis, are in no way a necessary consequence of irritation produced by the tubercle, and may exist totally independent of its presence.

The appearance of tubercle without any trace of inflammation in its vicinity is, as I said before, no proof of the absence of such process at the time of its deposition. In assigning inflammation, however, as the *avant courier* of these latent products, I allude simply to its most incipient stage—that of local excitement, with increased flow of blood, but without organic change; and consequently the absence of any indication of such process is explicable upon the following supposition:—That (in persons who, after death, presented evidence of latent inert tubercle), owing to a combination of depressing causes greatly lowering the vital powers, a condition of simple irritation or congestion was sufficient to give rise to the deposition of a certain amount of tubercular matter from the vessels of the congested part; and that these vessels, once freed from this material, and the predisposing causes giving rise to its formation in the blood having ceased: returned to their former condition without any advance in the morbid process, which, owing to a combination of circumstances, had at so early a period been sufficient to permit of its exit from the pulmonary capillaries. Should, however, its elimination require a process of a more advanced type for its accomplishment—viz., actual inflammation—we at once see how the peculiar symptoms of phthisis may become manifest. In the first instance the morbid action ceased upon the deposition of the tubercle; resolution took place, and the substance remained inert; in the second, the usual results of inflammation followed or accompanied such deposition

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[*] Vide Vogel's Pathological Anatomy, by Dr. Day, p. 277.

[†] Ibid. p. 287.

[‡] The history of many cases informs us that when this constitutional peculiarity is very strong, little or no inflammatory action is necessary to determine the deposition of tubercle, but that they will be formed wherever there is any congestion of blood, and sometimes where there is no vestige of previous disturbance of the circulation (Alison's Pathology, p. 199).

—namely, suppuration and ulceration of a modified type; not, indeed, resulting from the presence of the tubercle, but from the fact that the process having now attained the inflammatory stage, the ordinary consequences of inflammation will of necessity occur, whether tubercle be thrown out or not; these consequences—the suppuration and ulceration, and not the tubercle—leading to the softening and destruction of the tissues in which the latter has been lodged.

Lastly, if tubercles are to be considered as the primary cause of the irritation, inflammation, and other symptoms which are presupposed to occur subsequent to its deposition, there is some difficulty in understanding why the lung, and especially its upper lobes, should be so peculiarly obnoxious to their existence: but if we allow a state of hyperæmia to have preceded their deposition, the difficulty is in a great measure removed; for, in the first place, it is only necessary to bear in mind the delicate structure of the lungs allowing the easy exudation of the materies morbi through the thin texture of its capillaries. The mass of blood which passes through them as compared with other organs; the chemical changes in that fluid which take place here, and here alone; the abundant formation of fibrin (of which tubercle is but an inferior form); and, to add to these conditions, the fact, that of the different organs in which tubercles are found, the lungs alone are subject to those external peculiarities of atmospheric vicissitudes, so fertile in inducing an irritable congested state in tissues of so delicate a texture. Abrupt changes of temperature are universally allowed to favour the development of pulmonary affections, and more especially of phthisis, in persons predisposed to the disease; but surely it must be by the variety in the intensity of stimulus afforded to the pulmonary tissues, producing an excited irritable condition, and thus leading to the deposition of tubercle, rather than by any specific action possessed by such atmospheric influences in promoting its deposition, independent of a preliminary morbid process, however slight.

The above considerations may serve to explain the reason for tubercular matter being so generally found to preponderate in the lungs: its choice, however, of the upper lobes is more obscure. Now, it is well known that tubercle may be deposited with little, if any, derangement in the circulation of the part; but when this does occur, the deposit assumes the form of crude yellow tubercle from the first, without having been preceded by the grey miliary induration, from which, in the majority of instances, it appears to have been formed. But this primary form of crude yellow tubercle which appears to be so independent of any preliminary irritating process, is not that which is found to predominate in the upper lobes: it is the miliarly tubercle and the grey induration which are so common in these parts of the lung in the earlier stages of phthisis; and these latter conditions being undoubtedly the result of a low grade of inflammation, the question is, not why the upper lobes should be so liable to this deposition, but why they should be more particularly so, to that species of inflammation which gives rise to it; since (notwithstanding the frequency of ordinary pneumonia of the lower lobes, and also of one form of bronchitis—the capillary) it is certain that the upper portion of the respiratory apparatus is far more liable to irritation, congestion, and inflammation, of one kind or another.

In the first place, these upper lobes are the seat of a higher degree of activity in the respiratory process: the louder character of the murmurs is one indication of this; but this superior activity of function is also a sign of a corresponding activity in the circulation of these parts. This alone would render the upper lobes more keenly susceptible to the irritation of external stimuli, independent of the existence of a tubercular diathesis: but as this condition of the system has the effect of implanting a lower degree of vitality and proportionably diminished powers of reaction in all the tissues, it is plain that those of the upper pulmonary lobes must now be still more incapable of resisting with impunity the varied sources of irritation to which they are liable. Another reason tending to account for this susceptibility is found, I think, in the opinion of Broussais, that in these parts the bronchial tubes are shorter, and allow the external sources of irritation to arrive more readily at their termination. This argument certainly holds good with respect to the atmospheric air, if its temperature be low or variable, since owing to the shortness of the space which it has to traverse, it cannot have its temperature increased or assimilated to that of the surrounding parts, so readily as when it has to attain the more distant portions of lung. Again, in spite of the superior activity of the respiratory function in the upper lobes, it is in these that the least amount of assistance to the alternate expansion and contraction of the lung is afforded by the movement of the thoracic parietes, the deficiency requiring to be compensated for, by an increased action in the lungs themselves: and that such an active condition of certain of the pulmonary tissues does occur, independent of the movements of the thorax, has, to my mind, been satisfactorily shown by the elaborate researches of Reissenen and others. Lastly, this diminished mobility may, according to Dr. Williams, act in another way: he says,—"the smaller capability of motion possessed by the upper lobes of the lung, may have a share in disposing them to become the seat of tubercular matter; not by permitting it to accumulate, but by favouring bronchial obstructions to the respiration, and causing local congestions of blood, which may promote the formation of tubercles.

Before proceeding further, the following propositions may serve to embody the views entertained upon this subject:—

1st. That the tubercular and scrofulous diathesis are identical.

2d. That inflammation of the pulmonary substance is modified by this diathesis; its products being either scrofulous pus or what may be termed scrofulous lymph or tubercle; both these products being possessed of an inferior degree of organization.

3d. That in the great majority of instances the earliest phase of phthisical disease is ushered in by local excitement of the air-vesicles and smaller air-tubes.

4th. That this local excitement differs essentially from the analogous condition existing at the commencement of an ordinary sthenic inflammation, in its gradual supervention, its difficulty of recognition, and its slowness in passing into a more advanced stage.

5th. That all the symptoms of phthisis are the result of scrofulous inflammation of the lung, whether pus or tubercle be thrown out, or both.

6th. That, where the tubercular diathesis is very strongly marked, tubercle may be deposited, as the result of a very trifling amount of local irritation.

7th. That in a large number of cases it is not deposited till the morbid process has attained the true inflammatory stage.

8th. That the auscultatory signs of incipient phthisis may be divided into—1st, those which occur in cases where the tubercle is thrown out simultaneously with or subsequent to the local excitement; 2dly, those in which it is not deposited till this stage of excitement has become merged in actual inflammation of a specific character.

Lastly. That incipient phthisis may present all its characteristic symptoms before any tubercular matter has been hitherto eliminated.

[To be continued.]

SCROFULA AS IT AFFECTS THE EXTERNAL LYMPHATIC GLANDS.

By T. Balman, M.R.C.S.
Surgeon to St. Ann's Dispensary, Liverpool.

In the XIth. Vol. of the Medical Gazette, I have recorded some particulars of one hundred cases of scrofula, as they occurred indiscriminately at a Dispensary in one of the most populous neighbourhoods of this town. The result of these observations bearing more especially upon the etiology of the disease, may be repeated in a few words.

1st. That scrofula is common alike to all temperaments.

2dly. That the form of scrofula to which I have more pare particularly confined my attention, characterized by tumidity of the external lymphatic glands, is a disease almost peculiar to youth; the largest number of cases occurring under the age of fifteen, gradually diminishing up to thirty, after which its appearance may be considered as comparatively rare, unless complicated with syphilis.

3dly. That in four fifths of the cases the glands of the neck only were affected, next in frequency the axilla, groin, popliteal space, &c., which may or may not co-exist with the former.

4thly. That the exciting cause in rather more than half the number was wanting; but that in a considerable proportion this could be traced to an attack of measles or some other of the exanthemata.

5thly. That the issue of phthisical parents are more susceptible of the disease than persons whose families have presented no traces of the phthisical taint.

Lastly. That oxalate of lime, as a constituent of the urine, was found more commonly associated with these chronic glandular swellings than with any other class of diseases in which the urine was examined in order to determine this point.

Having investigated the origin, seat, and relative frequency of scrofulous tumours in different parts of the body, as respects age, sex, temperament, and other peculiarities, and the diseases bearing the closest affinity to the strumous habit, I propose to trace the progress, duration, and varieties of these tumours, concluding with a few remarks as to the general principles of treatment which should be kept in view in the management of these cases, confining myself as much as possible to those phenomena only that have come under my own immediate notice.

The absorbent glands in their normal state are of various sizes, from the one-twentieth part of an inch to an inch in diameter, and in many situations can be scarcely recognised by the touch, but in disease they vary from the size of a common kidney-bean to that of a chesnut or pigeon's egg; their shape is most commonly oval, flattened or bean shaped; they may be superficial, or lie deeper under the integuments and muscles of the neck: in the former case they will usually be found loose and moveable under the skin at the commencement of the disease; in the latter their existence can sometimes only be determined by a gradual bulging out of all the surrounding tissues. This is the case with many of those large unseemly swellings which we often find below the angle of the jaw, extending downwards in the direction of the large bloodvessels of the neck. The glands are here concealed and bound down by the platisma myoides, sterno-mastoid muscles, and fascia of the neck, and of course, therefore, at a considerable depth: the outline of the tumour is consequently not well marked at any period of the disease. These small bodies may remain in a state of slight induration, and without causing the least pain or uneasiness; hence persons are frequently unconscious of their presence for a considerable time,—it may be months or years,—sometimes disappearing from one part, soon perhaps to reappear in another. The skin is unaffected at this period, and one may displace or compress them firmly between the fingers without causing any pain, whilst in sympathetic enlargement of these glands they are nearly always tender to the touch, and more rarely advance to suppuration. By and by, tumours which were before separate become clustured together, in consequence of chronic inflammatory action being set up in the surrounding cellular tissue: in this condition their volume may exceed that of an orange or a person's fist; and, indeed, I have seen them attain such a size as to conceal the entire region of the neck. In this advanced stage even those tumours do sometimes remain almost stationary for a great length of time, and cases are recorded in which this state of things continued during the whole of life: these, however, may be regarded as exceptional cases, as it more frequently happens that the tubercular matter gradually accumulating within the parenchymatous structure of the gland, soon causes a state of congestion by occupying the place of vessels, and more or less impeding the movement of the blood in the adjacent and otherwise healthy tissues: suppurative inflammation is established, and the diseased product is eliminated; and the same result may happen by the swelling and inflammation of the surrounding integuments, which by directly compressing the already enfeebled and obstructed organ, deprives it of the few nutrient vessels it before possessed: the part perishes in the same way as if it had been crammed with tubercular matter. This species of strangulation, if one might use such an expression, was first noticed by Dr. Stark. A point of some interest, in a diagnostic point of view, here presents itself: are all tumours manifesting many of the foregoing characters, in the absence of any other recognized symptom, local or general (marking the strumous constitution), to be regarded always as scrofulous?

Mr. Phillips (and Mr. Lebert takes pretty nearly the same view) states*

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* Scrofula and its Treatment, page 27.

"That unless the swelling of the gland be accompanied by the deposit of a product, known as scrofulous matter, the pooof of a scrofulous constitution is, in my judgment, wanting. But supposing one or several cervical glands to become tumid in the absence of any obvious local irritation, this would constitute a strong ground for suspicion that the constitution was suffering under the taint of scrofula." M. Lebert believes that the lymphatic glands may become tumid and hypertrophied without any disposition to undergo the morbid alteration known as scrofulous or tuberculous matter, and that the congestion, increased redness and consistence, we often observe in the lymphatic glands belongs to another lesion,—it may be to inflammation, it may be to hypertrophy,—and constitutes in no way the first degree of the tubercular alteration; and he notices in illustration one form in particular, which I have very frequently seen, and believe it to be, in the majority of cases, of a purely strumous character.

Lebert says,* "This variety of glandular swelling is more circumscribed, and it is this especially which in no way belongs to the scrofulous or tuberculous constitution; one, two, and in this case sometimes a batch of these ganglions, become engorged, but increase very slowly in size; the surface of the skin is unaffected, very little chronic inflammation is established in the surrounding tissues, its consistence remains always soft and elastic. When the disease is confined to one gland only, its form becomes ovoid; it is irregular, on the contrary, when many are collected together. The volume of the whole mass varies, when the hypertrophy has lasted some time, from the size of a large nut to that of a pigeon's egg. The region of the neck in which they are most commonly found is the parotid. These glands have little tendency to suppurate; preserve for a long time a certain degree of mobility. They resist, for the most part, all remedies, external and internal, and extirpation is the only means of getting rid of them." I have certainly seen a few cases which corresponded very closely with this description of M. Lebert, especially as regards their persistence notwithstanding every kind of remedial means taken to disperse them; but in the great majority of cases I believe it will be found that some manifestations of the strumous constitution will be found to co-exist at the same time.*

Those who have paid any attention to this subject cannot have failed to have recognised an almost infinite variety of shades and differences which these tumours sometimes present, for the most part arising from individual differences as regards sex, temperament, vigorous state of system, or otherwise, as well as the particular stage of the disease at which the person happens to be presented to our notice: for example, in the first class of cases which I shall describe as deserving to be more especially considered, the tumid gland remains soft, compressible, and elastic for a considerable time, without causing any pain or uneasiness; the colour of the skin is unchanged, and I have sometimes failed in detecting any increase of temperature by the most delicate thermometer over the contiguous surfaces. The surrounding cellular membrane being usually unaffected, the boundaries of the tumour may be very easily traced by the fingers. One peculiarity in these tumours, which I have repeatedly noticed, is, the sudden variations in size which they appear sometimes to undergo: thus, after excitement or exercise of any kind, as running or walking fast, they sometimes become distended to twice or thrice their usual size. The same thing in a less degree is observable in the morning on getting out of bed (arising, probably, from some temporary impediment to the return of the venous blood from the head and face), but which gradually subsides during the day. One may notice, too, another feature of some practical value,—that is, the reciprocal influence between it and the healthy and regular performance of the digestive and blood-making process, on the one hand, and the partial arrest or temporary derangement of these functions on the other. Thus, suspend, vitiate, or impair by neglect of hygienic means, unwholesome or insufficient food, the process of digestion, the disease remains stationary, or continues to grow larger; or remove the person from an unhealthy locality, and supply him with wholesome and nutritious food, and the swelling will, in all probability, steadily diminish, and the general health regain its usual standard. I have certainly met with tumours of this kind more frequently in females of a lymphatic temperament between the ages of sixteen and twenty, than in males, and their treatment is, on the whole, more satisfactory than the group I am about to mention.

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* Traité Pratique des Maladies Scrofuleuses, par H. Lebert, Paris 1849, page 145.

* I have sometimes noticed, in connection with these soft, persistent, and obstinate class of tumours, a peculiar corded feel at the apex, not unlike that presented by the epididymis after an attack of acute inflammation of the testicle.

The next class of scrofulous tumours is seldom met with singly, other glands in the neighbourhood being more or less implicated; and it is not uncommon to see one continuous chain of knotted tumours extending from the top of the sternum to the angle of the jaw, in the direction of, and external to the sheath of the great blood-vessels of the neck. One will be very constantly found immediately below the angle of the jaw, even when the existence of others cannot be detected; arising primarily, in all probability, from irritation proceeding from some of the molar teeth, or from the mechanical action of the inferior maxillary bone. These tumours increase much more slowly in size than those just mentioned, exhibit no manifest variations in their forms or dimensions; they are for the most part tense, and much less compressible: their firmness is not the strong hardness presented by a scirrhous mass, but rather the feel of an unripe peach: at a more advanced period, however, their consistence may be considerable, and seems to arise from the gradual thickening and puckering of the surrounding cellular tissue, so that the parts sometimes appear as if they were fused or cemented together. Indolent tumours of this kind may be noticed in almost every variety of constitution; in the puny, squalid, half starved nestling, inhabiting some of the closest and most unwholesome alleys of a large town, as well as in the vigorous, robust, and more fortunate dwellers of more congenial districts: indeed, I have seen persons who apparently presented every other appearance of such unusually good health, as to have made me sceptical for a long time as to whether these swellings were in any way due to a scrofulous habit of body, until they have presented themselves again to me at a more advanced period with fistulous sores discharging the thin white flaky matter, so characteristic of the disease. In other cases we may on inquiry find that some other members of the family are suffering from sore eyes, some obstinate cutaneous affection, or strumous disease of the knee or other joints, any one of which would be sufficient to remove any doubt in our mind as to what catalogue of human infirmities it in reality belonged. Sometimes the only symptom which I have been able to recognize as likely in any way to keep up these swellings, has been some very obstinate form of constipation.

I have just mentioned that scrofulous tumours are peculiar to no temperament or habit of body, but may occur alike in persons to all appearance in the enjoyment of good health, as well as in the most sickly and enfeebled. A somewhat similar diversity exists as regards individual peculiarities in the tumours themselves; they may and do arise and attain to a considerable size, without causing scarcely any perceptible pain or discomfort: when loose and moveable under the skin, you may touch, squeeze, or handle them as roughly as you please, without the patient's complaining or showing signs of pain, or they may be extremely sensitive during the entire period of their growth; in the former case they progress but slowly, and are of longer continuance, whilst, in the latter, suppuration is more readily induced, and a cure is often more quickly accomplished. Those who manifest this peculiar irritability of nervous system and susceptibility to pain, I think I have generally observed have dark hair and complexions, and are of a bilious or melancholic constitution.

The question as to whether these swellings will or will not suppurate, and, if suppurating, the period at which this will probably happen, seems to be modified by some other complications which ought here to be noticed. Thus, in 67 cases given by Lebert, occurring in both sexes, affected with external glandular scrofula, without any complication, 41 suppurated,—21 male, and 20 female. In 74 cases of external glandular tubercle complicated with scrofula, 37 suppurated,—21 males, and 16 females. In 10 cases of external glandular tubercle complicated with pulmonary phthisis, 3 suppurated,—1 male, and 2 females.

	No. of Cases.	Suppurated.	Male.		Female.
1. Glandular tubercles without complication	67	41	21	+	20
2. External glandular tubercles with scrofula	74	37	21	+	16
3. External glandular tubercles complicated with phthisis	10	3	1	+	2
4. External glandular tubercles with scrofula and phthisis	10	3	1	+	2

The above goes to show that the suppuration of pulmonary tubercles retards the suppurative progress in the external glands, and is still less frequent when the external glandular swellings are complicated with some other forms of scrofula.

I have remarked, and the same fact is noticed by other writers, that persons who have suppurating tubercular glands of the neck, or elsewhere, were less subject to internal tuberculosis than those who retain them in a crude and quiescent state, and likewise that an insidious disappearance of these external glandular swellings may be sometimes observed when a more formidable disease is preparing itself elsewhere.

It is very commonly believed that external glandular tubercles are, to some extent, a preventive of internal tuberculosis, and the small proportion of those who die of phthisis, with scars, cicatrices, or other traces of their having been subject to phthisis at an early period of life, tends to strengthen this belief. Thus, Mr. Phillips examined at the St. Marylebone Infirmary 332 cases of phthisis: of these 7 only presented scars resulting from scrofula. A somewhat larger proportion is, however, given by M. Louis, who, in 350 bodies of persons dying of phthisis, found a tuberculous condition of the cervical glands thirty-five times. Now, taking the result of M. Louis as the maximum, the proportion (considering the close affinity, if not absolute identity, of the two diseases) which those who exhibit any marks of having suffered from scrofula bear to the total deaths from phthisis, will be thought very small. How is this to be explained?

In the first place, I believe that scrofulous tumours existing in the neck or elsewhere, so long as they continue to manifest signs of activity, either by the gradual increase of fresh morbid materials, and for some time after such morbid materials have been eliminated, do act as a safety valve to the lungs. This has often and often been impressed upon my mind after witnessing the renovated and improved health of persons who, before their recovery from the external disease, showed all the symptoms of incipient phthisis. This may be, doubtless, partly attributed to treatment, but not altogether, for I have noticed precisely the same improvement in those who have continued their avocations, and allowed the disease to take its course, without having pursued any systematic plan of treatment whatsoever.

If phthisis supervenes and progresses with any rapidity upon disease of the external lymphatic glands, those of the latter that appear to be to any extent disorganized, or have undergone the cretaceous transformation, remain quiescent, appearing loose and moveable under the integuments, whilst others not so far advanced, and in all probability only in a state of hyperæmia or congestion, may entirely disappear, leaving the skin blanched and wrinkled.

Morgagni, Ruysch, Haller, and other celebrated anatomists, believed that the size of the lymphatic glands corresponded in a certain degree with the growth of the animal,—that is, grew with its growth, but after the middle of life gradually diminished, and then vanished entirely. Bichat states, also, that they are more remarkable in infancy, and become less numerous in the adult, and mostly disappear in old age; and Mr. Gulliver,* likewise, found them proportionally larger in children than in adults, and in the necks of young birds than in their parents, and in old age more or less wasted and deprived of juice; but they never entirely disappear. In this respect the lymphatic and thymus glands present a striking resemblance, and if their functions be, as is now very commonly entertained by physiologists, to elaborate and prepare nutritious matter to meet the additional requirements of the system during the active period of growth, when nature is busily employed in building up the structures, appears in my mind to go some way in explaining the reason why these glands should be more liable to disease previous to the age of puberty and manhood, than afterwards. The growth of the body being now perfected, the functions of these organs would be simply limited to the maintenance and support of the animal body, and the morbid elements which would otherwise be attracted to the surface in growth, has now a greater tendency to fasten itself chiefly on some internal organ, especially the lungs, causing pulmonary phthisis. This view is, I conceive, strengthened by some of the striking phenomena before alluded to, as regards a certain amount of antagonism between the two diseases; for example, external glandular swellings with a vigorous circulation of the cutaneous surface seems to protect the lungs from being invaded with tubercles. On the other hand, the presence of tubercles in the lungs is seldom followed by a similar affection on the external surface of the body.

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* Hewson's Works. Sydenham Society Edit.

As regards the exciting causes of scrofula I have already mentioned that infectious diseases of childhood, and especially those accompanied with cutaneous eruptions, as small-pox, measles, scarlatina, must be considered as among the most fertile sources. I have very commonly, also, been able to trace the first manifestations of the disease after some long-continued and debilitating discharge from some of the mucous surfaces of the body, whether it be obstinate diarrhœa, profuse runnings from the ears or vagina, also after the healing of some external sores or ulcers. Likewise in females during the period of lactation: in fact, whatever tends to lower the vital powers much below the limits compatible with a due performance of all the natural functions of the body, may undoubtedly, in persons otherwise predisposed, give rise to scrofula in all its varied forms; and occasionally this disease may, in all probability, be generated *de novo* in the absence of any hereditary family taint. For example, scrofula has been observed to originate in the offspring of healthy parents by habitual exposure to cold and damp, privation of pure air, light, and other physical influences so essential to health. The operation of such causes in producing tubercular disease in the lower animals has been particularly dwelt on by Drs. Jenner, Baron, and others; and its no less injurious effects on the human body may be witnessed every day in the inmates of prisons, jails, and workhouses. The effect of bad and unwholesome food, also, has been especially insisted on by Mr. Carmichael, who, in his admirable lectures in the Dublin Medical Press, has given us a very vivid, though perhaps somewhat exaggerated, picture of its degrading and destructive tendency. The severest cases of scrofula that I have witnessed have certainly been those in which syphilis (or the abuse of mercury for its attempted cure) has, as it were, become engrafted upon a strumous constitution: many were young persons, about the age of 20, of depraved and dissipated habits, who had been the inmates of a prison or Bridewell. Others were common prostitutes; and a considerable proportion were working men, about 40 years of age, who almost invariably attributed their illness to exposure to damp and cold, either from wearing wet clothes, or being obliged to work in sewers or other subterranean places, taking at the same time some preparation of mercury for the cure of a venereal complaint. Among them were men with large well-developed frames, who had in some period of their lives performed feats requiring great physical strength; and I believe I may add that the majority had never before suffered in any way from scrofula (though the hereditary predisposition was undoubted) until having unfortunately become inoculated with the syphilitic virus.

The progress and duration of scrofula is said to be considerably modified by a variety of circumstances, and authors almost uniformly state that this disease may either terminate in a cure, or be developed in some internal organ about the age of puberty. Repossessed with this theory, in my first paper I was disposed to concur in this opinion; but my experience since has led me to conclusions somewhat different from what I then stated. I am now of opinion that puberty has little or no influence upon the disease, at least in the male sex, and not at all so obvious as has been represented in the female. Lebert, one of the latest writers on this subject, adopts pretty much the same view.

The influence of season is much more

striking; spring and the early part of summer being the period at which these glandular tumours begin very frequently to increase rapidly in size. During the month of April of the present year, this was very strikingly exemplified in my practice, when many of those who had showed a steady improvement as regards the general health, and gradual and, in some instances, almost complete subsidence of the swelling, almost suddenly began to take on, as it were, a new and independent life, and bursting forth with such renewed vigour, as to set at defiance all our boasted remedies. And what is remarkable, all this seems to take place without any corresponding change in the constitution and functions of the body generally; the tongue being, for the most part, clean; the appetite, digestion, and general strength, appearing as good as at any period prior to this change.

Though we find a strong tendency in this disease, when once manifested, to become aggravated at this time, it does not appear that this or any other form of scrofula is observed more frequently to show itself for the first time during this season than at any other period of the year.

[To be continued.]

ROYAL COLLEGE OF CHEMISTRY.

The annual meeting of this institution took place on the 2d instant, at the College, Oxford Street, Mr. J. A. Gordon in the chair. The report stated that, although the subscriptions had increased, the number of pupils had diminished, which had caused a slight decrease in the funds. During the past year the question of the supply of water to London had occupied the attention of the Government, and Dr. Hofmann, with the sanction of the Council, had undertaken the most extensive analysis of the different waters around the metropolis, in order to ascertain from whence the purest and best supply could be obtained. The financial statement showed the receipts to have amounted to £1689. 17s. 2d., and the expenditure to £1520. 14s. 4d., leaving a balance of £169. 2s. 10d. The report was unanimously adopted, and a vote of thanks passed to his Royal Highness Prince Albert for his continued patronage of the College.

MEDICAL GAZETTE.

FRIDAY, JUNE 13, 1851.

A letter which we publish in another part of this number is calculated to direct the attention of the profession to the subject of Cretinism, its treatment, and the means of prevention.* Dr. Guggenbühl, the philanthropic superintendent of the establishment of the Abendberg in Switzerland, has recently visited this country, and has addressed to Lord Shaftesbury the letter of which we publish an abstract. The causes of this singular malady are unknown, and although the Report of the Commissioners appointed by the Sardinian Government has brought to light many facts of great interest, yet the etiology of the disease is still obscure.

It has been generally supposed that *Goitre* was a constant accompaniment of *Cretinism*, but the Sardinian report shows that this opinion is not correct. Out of 7,084 persons affected with Cretinism there were 2,011, or one out of 3·5, who had not goitres. There is, in fact, no direct connection between cretinism and goitre. In the Alpine Sardinian States many suffer from goitre without any taint of cretinism. Endemic cretinism was found to be confined to the valleys and plains belonging to the loftiest Alpine elevations, having for their centre the three culminating points of Monte Viso, Mont Blanc, and Monte Rosa. The valleys in which the disease was most prevalent, were observed to be the deepest, the most confined, the dampest, and those possessing the smallest circulation of air, and the least amount of light. The Commissioners further state that the largest proportion of cretins was always found in the most wretched hovels, standing apart from other habitations, often near marshy grounds, and surrounded by trees.

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* See page 1054.

The *sexes* appear to be pretty nearly equally affected with goitre, cretinism, and the mixed conditions. The following tables show, as far as the proportions of the sexes could be ascertained, that goitre is more prevalent among females, and cretinism, without goitre, among males; while the mixed state of cretinism with goitre is equally prevalent in the two sexes.

The population of the Sardinian states is assumed at 2,651,106. Of this number there were ascertained to be afflicted with goitre and cretinism 21,841; making one case in every 120 of the population. These numbers are thus distributed according to sex:—

Goitre.

Males	4323	
Females	5236	
Sex not specified	12282	
Total	21841	

Cretins without goitre.

Males	1120	
Females	891	
		2011

Cretins with goitre.

Males	1953	
Females	1959	
Sex not specified	1161	
		5073
Total number of cretins		7084

The cretins, therefore, are, to persons affected with goitre, in the proportion of about 1 to 3; or, taking the whole population, one person in 374 is affected with cretinism. In certain districts the proportion is very high: thus in the district of Maurienne the cretins formed 2·27 per cent.; in the Tarentaise, 1·45 per cent; and in the Valley of Aosta, 2·79 per cent. of the population.

The report justifies the common opinion, which is fully confirmed by the researches of Dr. Guggenbuhl, that *cretinism* is a disease of the cerebro-spinal system, and is always accompanied by cerebral defect. There is malformation of the cranium, with idiotism, to a greater or less degree, and a want of muscular power.

The occurrence of cretinism does not appear to be prevented by great elevation above the level of the sea. It was supposed by Saussure that the disease was not found at elevations above 3280 feet: the Commissioners, however, met with numerous cases in localities elevated upwards of 5,000 feet above the sea-level. In one village at this elevation (5,248 feet) there were 90 cases of goitre and cretinism in every 1,000 of the population, or nearly 1 per cent. Valleys and plains at lofty elevations may present for the production of endemic cretinism all those conditions which exist in other localities at a ower level.

It would also appear from this report that cretinism varies in degree, although it presents a melancholy picture of the complete prostration of all intellectual power in the large majority of those who are affected with the disease. Thus, of the 7,000 cretins, there were 2,165 in the lowest stage, and bereft of all reasoning power, and 3,518 having some power of speech, but with intellectual faculties limited simply to their bodily requirements—in other words, possessed only of animal instinct. We learn from Dr. Guggenbühl's letter that about one-third of the whole number of Swiss cretins are born in this condition—a fact which sufficiently proves its hereditary transmission.

An accurate knowledge of the extent and prevalence of a disease, as well as of the classes of persons and localities affected by it, may lead to improved methods of prevention or treatment. In the case before us, the disease is of a character that we must look rather to prevention than treatment, if we wish to banish it from a population. Goitre is prevalent in many countries: cretinism is peculiar to a few. The Sardinian Report clearly points out that there are localities which are wholly unfitted for the habitation of man—no doubt from the malaria which exists in them, and which predisposes the inhabitants to this state of degeneracy. It is further proved that, if these localities be inhabited, the penalty will be paid in the degradation of the human being almost to a worse condition than that of an animal: in fact, man becomes a brute in human shape. In the Alpine valleys we have seen some mixed cases of cretinism and goitre advanced to that degree, that the beings appeared like living monsters, in whom the human form could be hardly recognised. It is scarcely possible to suggest a remedy; for the most despotic government has not yet ventured to issue a prohibition against the habitation of certain parts of its territory; and probably any attempt to carry out such an order would be attended with complete failure. The results of experience and statistical research can hardly be expected to reach a half educated labouring population struggling for the bare necessities of existence. People avoid pestilential swamps where death is the certain penalty; but, unfortunately, they are not warned by results which, although they do not affect life, take away from it all that renders it valuable. The disease must progress, and probably increase yearly by hereditary taint, until those localities which have been denounced by the Commissioners are no longer selected as habitations.

In drawing this conclusion from the Sardinian report, it would be unjust to withhold the expression of our opinion that, next to prevention, the plan of treatment pursued by Dr. Guggenbühl should be adopted in every country where cretinism abounds. It has been attended with unexpected success, and is deserving of the support of every government professing to be guided by the principle,—*salus populi suprema lex.* We are glad to find, from the letter to which we have referred, that a Society is about to be established for the purpose of carrying out such hygienic improvements as will probably have the effect of reducing the number of cretins, and at the same time of eradicating other diseases to which the poorer classes are subject. There can be no doubt that better habitations, a supply of wholesome food, cultivation of the soil, the draining of morasses, and the prevention of intermarriages, will have a most important influence in checking the prevalence of cretinism: at the same time, the advice of the Sardinian Commissioners is deserving of attention—those localities in which the disease has especially shown itself, should be abandoned.

Reviews.

A Practical Treatise on Diseases of the Urinary and Generative Organs (in both Sexes). By William Acton, late Surgeon to the Islington Dispensary, and formerly Externe at the Female Venereal Hospital, Paris. Second edition, 8vo. pp. 693. London: Churchill. 1851.

Mr. Acton's former writings have made widely known that gentleman's indefatigable industry in the pursuit of the knowledge of syphilitic diseases, as well as the service he has done to surgery and pathology by his researches. The second edition of the work, which is now presented, contains the substance of the author's previous researches, with an extension of his investigations; so that the accumulation of materials has rendered this volume an entirely new work. The subjects now added are Spermatorrhœa, Impotence, Infiltration of Urine, Impermeable Stricture, &c.

The entire work is divided into two parts:—viz., I. Non-specific diseases; including Blennorrhagia and all its accompaniments in the male, Blennorrhagia in the female, Blennorrhagia common to both sexes, Warts, Herpes Preputialis, Eczema, and Excoriations. II. Syphilitic affections; embracing Syphilis, its primary symptoms; Bubo, Secondary Symptoms, Tertiary Symptoms, Syphilitic Cachexia, Syphilitic Monomania, and Infantile Syphilis.

In the introductory chapter we find a strong case made out for the institution of Lock Hospitals, or for the general admission of venereal cases into all the metropolitan hospitals, from some of which they are at present excluded, or admitted only under false pretences. In behalf of those poor unfortunates, the common prostitutes, the author advocates the best interests of society, whilst exposing the hollowness of that prudish assumption of virtue which points the finger of scorn at the fallen sister, and makes her an outcast from that Christian charity which should invite instead of repelling those who "need the physician."

The first form of disease that we meet with in this work is Blennorrhagia in the female; the causes of which the author divides into predisposing—*e. g.*, age, temperament, climate, locality, and hygiene; and the exciting—*e. g.*, food, local irritation, injections, labour, and abortion, inattention to cleanliness, menstruation, worms, and contagion. The symptoms, termination, pathology, diagnosis, treatment, &c., &c., are all fully treated of by Mr. Acton.

In the second chapter we meet with "Blennorrhagia in the Male;" described under the divisions, Balanitis and Gonorrhœa; the former, the *balanite* of the French, consisting of "inflammation and patchy excoriation of the glans penis and lining of the prepuce, accompanied by a muco-purulent discharge." The cause is doubtless the existence of the prepuce, as the affection is not met with in persons who have been circumcised. This affection, and all its complications, are carefully described, and the possibility of its producing a chancre also stated.

Gonorrhœa and its complications are too well known to require a lengthened notice; but we may refer to what the author terms its "abortive treatment," which consists in the injection of a strong solution of nitrate of silver; and which, the author observes, to be effective or safe, must be employed within the first few hours of the attack. This plan of treatment is not altogether novel, it having been adopted with success by the late Mr. Earle, at St Bartholomew's Hospital, years ago: the nitrate of silver having been applied by him in an ointment smeared on a bougie.

Mr. Acton employs also copaiba and cubebs, and gives minute directions respecting their mode of administration. The author presents M. Ricord's treatment, as laid down in a lecture by that surgeon, published in the Gazette des Hôpitaux, 1847.

In the section on Strictures Mr. Acton quotes largely from the writings of Sir B. Brodie, Sir A. Cooper, Mr. Rhynd, M. Ricord, &c., presenting a perfect digest of the facts of this contested subject. The author's observations on the various modes of treatment that have been advised will afford some assistance in enabling the young surgeon to give to each plan its proper appreciation. We quote Mr. Acton's observations upon Mr. Syme's proposed perineal section, as we do not entirely agree with the author's remarks:—

> "I have witnessed this perineal section performed several times, in the most able manner, but *all the patients have died*. In itself, the operation is very easy; but the results are not, at least in London, so favourable as Mr. Syme appears to think. Still I believe we are not yet in possession of a sufficient number of facts to warrant us in rejecting an operation that has been so highly successful in the hands of Mr. Syme, particularly when we consider the great mortality attending the treatment of these bad stricture cases" (p. 180).

For our part, we cannot coincide in this undecided opinion upon so important an operation. We should have expected that the author would have informed his readers of the circumstances under which these patients upon whom he saw the operation performed "have all died:" the fact is obviously indispensable to the determination of the question. That the operation itself is very easy does not imply that it is safe, especially when the results state are that "*all have died.*" Mr. Acton would have done well to remind his younger readers that a certain important artery incurs great risk of injury. Moreover, the writings of Dr. Mullar and Mr. Lizars have also shown that the results of the operation are not alone "in London" unfavourable. We should rather be disposed to modify Mr. Acton's concluding sentence, by saying that we are not warranted in *adopting* an operation which has hitherto shown so little beneficial results, except as stated by one surgeon; and that, unless far greater success and safety can be proved to attend it, we are not justified in leaving the methods which have been long established, and are followed by a much lower mortality.

The author's remarks upon the practice to be followed in cases of extravasation of urine are worthy of the attentive consideration of the student. The same may be observed of the sections on fistulous openings and false passages.

Affections of the prostate gland are treated of under the forms of acute and subacute inflammation, and the chronic affection that is met with in old men. The treatment of the latter was laid down by Sir E. Home, whose practice is followed by the author.

Under the term *Epididymitis*, Mr. Acton, after Ricord, includes what was once commonly known as *Hernia Humoralis*, and which has received a great number of synonyms, both on the Continent and in Britain. Under the treatment of this affection the author notices a plan which he observes that English practitioners have probably never witnessed, and which he has himself "never had occasion to employ in private practice." The plan is that of Jean Louis Petit, revived by M. Vidal, and is thus described:—

> "This consists in dividing the tunica albuginea, so as to overcome the state of strangulation produced by the inflamed seminal tubes. If orchitis exists, this division of the tunica albuginea is an excellent plan, although the operation might alarm many surgeons. Still it is a very simple affair, and puncture of the tunic often takes place in tapping hydrocele, without any ill consequences. We can readily imagine that the division, even in cases of a sound testis, where there is only epididymitis, may do much good; for a swollen epididymis may occasion strangulation of the testicle. The division should be made with a lancet, and extend one or two centimetres in length. Much alarm has been created relative to hernia and protrusion of the tubuli seminiferi, but experience does not bear out such a supposition" (M. Ricord, in Gazette des Hôpitaux, 1848).

Compression of the testis in this affection was, we believe, first employed by M. Ricord. Mr. Acton introduced it to the notice of English surgeons. It is a plan that we have ourselves found useful and efficient. Of course, the first or acute symptoms must have subsided before recourse is had to this method. The manner of employing this treatment is to embrace the testicle in the left hand; then passing a strip of adhesive plaster, spread on moleskin, around the cord; repeating circular strips round the body of the testicle, until all but the lower part is covered by them. The lower part is then to be compressed by shorter strips at right angles to the former. If the strips of plaster be drawn moderately tight, the testicle will be sufficiently compressed. Some little pain is commonly experienced at first: this soon subsides; and, in a few hours, the plasters will require to be reapplied, on account of the shrinking of the organ. Some attention is required to prevent the testicle or epididymis becoming unequally compressed. With, however, ordinary precaution the practice will be found safe, speedy, and effectual. Mr. Acton enters very fully upon the consideration of all the circumstances and conditions to be observed in the employment of this treatment.

With reference to inflammation of the bladder, Mr. Acton repeats the information already communicated by Dr. Prout and others. The author, however, states that he has not so frequently found the exhibition of mercury required or useful, as stated by authors generally. Neither does he rely upon the internal use of hyoscyamus or liquor potassæ.

Mr. Acton manifests some hesitation in introducing the subject of spermatorrhœa into his work, which he does under the head of "affections of vesiculæ seminales." The author remarks, that he is aware that this section treats, "*de omnibus rebus et quibusdam aliis*," and that "it is made up of interesting particulars, drawn from a variety of books," as well as from his own observations.

The author offers many apologies for having introduced the topic at all into his work. But if the affection have a real existence, no apology can be needed for the attention that may be bestowed upon it by a surgeon whose special objects of study are diseases of the urinary and generative organs. That the affection has too real an existence we are assured from our own observations in private practice, while we are also assured that much benefit has resulted to the unfortunate sufferers from spermatorrhœa by the publication of M. Lallemand's work, and its English edition by Mr. M'Dougall.

We now proceed to the consideration of blennorrhaga in the female. In describing this, the author borrows largely from M. Ricord's lectures, and from a paper by M. Boys de Leury. The subject is treated under the following divisions:—Blennorrhagia of the vulva, urethra, vagina, uterus, and ovary.

While treating of blennorrhagia of the uterus, Mr. Acton takes occasion to give an historical sketch of the speculum, to the introduction of which to the notice of British practitioners the author lays claim, describing at the same time the opposition which he met with in its general introduction.

Mr. Acton treats, at considerably more length than we should have thought requisite, on the instrument itself, its manner of introduction, &c.; and on the diseases in which he advocates its use, he quotes from the writings of Drs. Bennett, Tilt, M. Jobert, M. Huguier, &c.

The following chapters include the subjects of blennorrhagic ophthalmia, gonorhœal rheumatism, blennorrhagia of the anus and mouth, warts, vegetations, &c.

The second part of the work is engaged entirely with the consideration of syphilitic diseases, upon which we suppose no English surgeon is more capable of giving an opinion than is Mr. Acton. These diseases are, by the author, arranged in three grand subdivisions—viz., primary, secondary, and tertiary. Under each of these sub-divisions the observations offered by Mr. Acton are such as we should look for from one who has bestowed so much time, attention, and talents upon their study.

The author is not an advocate of the use of mercury in syphilitic disease to the extent in which it has been employed. The distinctions and discriminations of the cases in which this remedy should be employed demand very attentive study, not only from the student, but from the more advanced practitioner, who has been in the habit of indiscriminately prescribing that mineral. We quote the following with reference to the employment of mercury in simple chancre. After describing the local treatment which he adopts, the author observes:—

"But must no *mercury* be given to expedite the cure and prevent secondary symptoms? Before speaking of the necessity of taking mercury, I wish to remind the reader that a person who has undergone, or who is undergoing, a course of mercury, is as liable to a fresh local contagion (if he expose himself) as if he had not taken a grain of the mineral: and hence we infer that the mineral by no means acts as a local antidote. The result of numerous cases treated during the last ten years, and which still remain under my observation, induces me to believe that mercury is by no means necessary, either in expediting the cure or in preventing secondary symptoms. Without the mineral the local cure is rapid, and secondary symptoms do not occur, except in such feeble proportions that they should not enter into our calculations. It is true, the exceptional cases may injure the reputation of the surgeon, and he may be told that, had the patient taken mercury, constitutional infection would not have followed: but in nine out of ten other cases the patient will justly extol the merits of the surgeon, who has spared him a course of mercury, which immunity from constitutional disease proves to have been unnecessary. And I cannot lend myself to approve from expediency what I believe to be scientifically wrong and unnecessary, or to sanction the treatment of those who may assert that every chancre or sore on the penis should be treated with mercury, on the plea that, if secondary symptoms follow, the surgeon at least cannot be blamed, and the treatment without mercury called in question" (p. 395).

In the true indurated chancre the author states that mercury cannot be dispensed with. This, he adds, is also the practice now followed by M. Ricord, who has recourse to mercury in all instances of true indurated chancre. For the diagnosis of these cases, and for the details of their treatment, as well as for every other point connected with the various forms which syphilitic disease assumes, Mr. Acton's work may be studied with much profit.

The concluding chapter, on infantile syphilis, contains, besides a full consideration of the peculiarities of the disease at an early age, the discussion of a question of medico-legal interest,—*e. g.* the possibility of a syphilitic child—that is, one labouring under secondary symptoms—infecting a wet-nurse. Mr. Acton takes the negative side of the question with entire confidence. We are certainly not less surprised than the author at Dr. Bull's assertion, "that he had observed the disease a hundred times in nurses who had got foundlings to nurse." On this Mr. Acton very fairly asks—"Is Dr. Bull aware that he is one of those lucky individuals who has seen what no other mortal, English or Irish, ever before witnessed?" Dr. Bull has undoubtedly erred in his diagnosis, if the experience of John Hunter, Ricord, and others, who have large experience of venereal diseases, may be admitted to be of any weight in the question.

Mr. Acton has referred to Dr. Alfred Taylor for his opinion upon the medico-legal bearing of such supposed cases of the infection of a nurse by an infant. The opinion given by that authority wisely counsels caution in affirming the absolute impossibility of the occurrence, "having a due regard to the abstruse nature of infection." The correspondence, therefore, affords some very useful hints on the medico-legal bearings of this question.

The entire volume constitutes a complete compendium of the present state of theory and practice in diseases of the external organs of generation. Its title, however, embraces a large and important group of diseases which more strictly belong to the department of urinary pathology, and are to be found in the writings of Prout, Bird, Rees, Jones, &c. &c. Mr. Acton's book must be diligently studied by every practitioner who would desire to benefit instead of injuring his patient; it has a distinctive and pre-eminently diagnostic value. Diagnosis is doubtless of importance to the right treatment of every disease; but, in the class of cases to which this book refers, diagnosis becomes of vital importance, not only to direct therapeutic measures, but to save from the enduring evil consequences of wrong treatment. The student will herein find that guidance which will enable him to pursue the right course.

Proceedings of Societies.

MEDICAL SOCIETY OF LONDON.

May 31, 1851.

DR. MURPHY IN THE CHAIR.

DR. TILT read a communication

On the Galvanic Cataplasms of Professor Recamier.

After some preliminary observations, Dr. Tilt stated that he wished to draw the attention of the Society to the particular mode of employing electricity, in which continued currents are generated by the contact of metals, by which means a large quantity of electricity is obtained at a low tension.

There are many machines constructed on that principle; but they are all ponderous complicated machines, liable to get out of order, and therefore requiring the guidance of some one who well understands their action. The feelings of awe, too, with which the patient generally beholds them, interfere frequently with the effects we desire to obtain. Would not, then, a milder application of the same agency, by permitting its prolonged employment, enable us to do more good than could be effected by the previously employed energetic modes of application? This simple question must have suggested itself to many, and it has suggested itself to a fellow of this Society who has given great attention to the therapeutical influence of electricity. "I was very sanguine (says Dr. Golding Bird) that the current excited by a simple pair of zinc and silver plates, similar to those we employ to excite the contractions in a frog, would be found of great value in practice." But, to obtain an action, Dr. G. Bird thought it necessary to remove the cuticle from the skin; and then he found that the most oxidisable of the two metals produced sloughing of the skin, or, in other words, the electrical moxa of which he had shown the utility.

Previously to this, Mr. Spencer Wells had ascertained that the removal of the cuticle is not necessary; and that, by applying to the skin, previously moistened by diluted vinegar, two plates, one of silver and the other of zinc, connected by a silver wire, a marked electrical action was obtained; disordered functions of a particular nerve were restored to their normal state, and ulcerated surfaces were rapidly healed.

For many years Professor Recamier had made use of electricity by means of the energetic apparatus usually employed; and it may perhaps be remembered that, a few months ago, he presented to the French Academie de Médecine some remarks on a new mode of supplying electricity by what he called galvanic cataplasms, consisting of filings of copper and zinc enveloped in cotton wool. Lately he had improved on this rather clumsy contrivance, and he had sent Dr. Tilt the little apparatus which he had now the honour of submitting to the inspection of the Fellows. Each of these cataplasms, or disks, if a scientific term was preferred, is a galvanic pile composed of twelve couples. The couple is formed by a riband of zinc and copper, and each couple is separated by a piece of flannel. On the coloured side is cotton wool; on the other, a piece of gutta percha tissue to insulate the apparatus. The only difference between the two disks is, that, in the pink one, the copper stands first, while the zinc comes first in the one covered with blue. The electrical force generated in the apparatus is sent through the copper rings, to which the insulated copper wire can be attached when the more energetic effect of the two cataplasms is required. In some people the acid perspiration of the skin is sufficient to increase the intensity of the electric action; but more active effects are produced by wetting the flannels with diluted vinegar, or a weak solution of common salt, as is seen by the action of the apparatus on the electrometer. When one of these cataplasms is tightly bound to the surface on the skin, it gives an unusual sensation of warmth,—a pricking sensation is felt, and the skin is made red; and, when two of the cataplasms are connected by the wire, and applied to the same surface, but at some distance from one another. A stronger effect is produced when one is applied to the organ we wish to influence, and another to the opposite portion of the spine. Such are the modes of application; and it may be worn day and night without inconvenience, though, in ordinary cases, it is only under application at night. In what cases this apparatus has been, or may be expected to be useful, is a question which now naturally suggests itself. In the hands of Professor Recamier, it once brought on menstruation before the usual time. He therefore intentionally applied it for that purpose, and with success, in cases of chlorotic amenorrhœa. He is trying it in such cases of sterility as cannot be accounted for by any disease, but which seems to depend on a defective ovarian action; and, amongst other cases, on an illustrious lady, whose barrenness menaces to extinguish one of the oldest dynasties of Europe, and also in the case of a Russian princess. In this last case, menstruation, which formerly lasted but 36 hours, now continues for six days. This is the first effect; but time alone can show whether sterility will be removed in this or the other cases. Dr. Tilt thought it would help to cure some of those tedious cases of chlorosis where a girl eats heartily, takes plenty of sleep and exercise, has nothing on her mind, and still derives but little benefit from good food and judicious treatment. In hopes that this mild electric action may take effect on the ganglionic nervous system, and give a spur to defective nutrition, he has lately applied one of the disks to the epigastric region of a patient, and the other to the spine. Besides these trials, Professor Recamier has applied these galvanic cataplasms, with marked and rapid success, in the treatment of rheumatic and nervous pains; in one obstinate case of constipation of some years standing; in a case of asthma; and a patient suffering from angina pectoris was benefitted, but not cured. Dr. Massé, and several other medical men in Paris, have found them successful in similar cases, as you will see by perusing the pamphlet Dr. Tilt presented to the Society. In this communication he has merely stated the results said to have been obtained by his venerable teacher; and, if this had not been the last meeting of the Society, he would have delayed drawing the attention of the Society to the subject until he had been able to test its utility by his own observations. He thought, however, the matter sufficiently deserving of consideration; and if, on account of the harmless appearance of the apparatus, the fellows should be tempted to consider it ineffectual, he would beg to refer them to an authority already quoted, who says:—"From what I have seen, I am fully convinced that a feeble current, if kept up for a long time in certain forms of paralysis (care being taken that the positive fluid traverses the limb in the direction of the nerves), would prove the most important mode of applying this remedy with success." It seemed to Dr. Tilt that Professor Recamier's cataplasms would be useful; and, as it was impossible for the fellows to give them a trial without knowing where to get them, he concluded by informing them that the apparatus might be obtained of Mr. Joseau, of the Haymarket, or of Mr. Bucklee, of 86, New Bond Street, Oxford Street, at the cost of 15s.

NEWCASTLE AND GATESHEAD PATHOLOGICAL SOCIETY.

January 1851.

MR. WM. ROBINSON, of Gateshead, related a case of

Tape-worm, expelled by Kousso,

from a middle-aged woman, who was treated by Dr. White, at the Gateshead Dispensary. She had passed portions of worm for four years, and had the usual unpleasant symptoms. Turpentine and other anthelmintics only brought a few living portions away. Tonics had likewise proved ineffectual. Three months after coming under treatment, ℥ss. of kousso was administered at 12 A.M.: it acted copiously on the bowels at 4 P.M. without any griping. The worm, which was upwards of twenty-seven feet long, passed with the motion. She was menstruating at the time she took the kousso, but that secretion was not affected in the least. Her dyspeptic symptoms disappeared at once; and during the four months that have since elapsed she has had no return of the symptoms.

Mr. WM. PRESTON also exhibited a

Perfect Tape-worm,

expelled from a very stout man in four hours after the usual dose of kousso had been taken. He had passed portions of worm for many years, and had had numerous remedies administered without much effect. The kousso acted once freely without the aid of any other purgative, and produced no unpleasant symptoms.

A beautiful specimen of

Fungoid Disease of the Testis

was shown by Mr. WM. HEWITSON. It had been removed from a middle-aged man, who received a blow on the testis eight months previously. The disease presented the usual symptoms only four months before the removal: it was confined to the body of the testis, not implicating the chord or glands in the groin. The wound healed by the first intention; and although the patient was quickly well, and walking about, a fungoid ulcer appeared on the cicatrix three months after excision, and was rapidly followed by glandular complications and death.

Mr. HEATH exhibited an

Osteo-sarcomatous Tumour,

of the size of a child's head, attached to the lower end of the femur, removed at the Infirmary by amputation, from a middle-aged countryman. It appeared shortly after receiving a blow, and, in spite of numerous local and constitutional measures, had increased gradually during a year. Most of its circumference felt so hard and inelastic as to resemble an exostosis; one projecting part was, however, rather elastic, and a grooved needle pushed into it at that part brought out some microscopic cells, mixed with the blood, which showed its real character. The structure was very dense and fibrous, the fibres being beautifully seen under the microscope passing from the tumor deeply into the cancellous structure of the bone. The patient, when discharged, had a fistulous sore on the stump leading down to a piece of the end of the necrosed bone; the surrounding part of the bone was enlarged and indurated, most probably from some return of the growth.

Two Calculi, removed by the Lateral Operation,

by Sir J. Fife, at the Infirmary, were exhibited, and some notes of the interesting cases read by Mr. GIBB, with Sir J. Fife's permission. The first stone was of the size of a small pear, with a long conical apex. Three inches long, its rounded base was nearly two in circumference, and its apex a mere point. The patient, a pitman, and forty-seven years old, had been cut for stone twenty-three years before; the stone was then extracted in fragments with great difficulty: the recovery was, however, favourable, and he continued well until a few years ago. When admitted into the Infirmary, in addition to the usual symptoms, the flattening of the motions and rectal distress were unusually great. The sound was found to grate over the stone immediately on entering the neck of the bladder; and with two fingers in the rectum the calculus could be found fixed at the prostate, and projecting considerably backwards upon the rectum. The first steps of the operation were lengthened and greatly complicated by the scalpel striking the stone immediately on entering the prostatic portion of the urethra, and preventing its progress through the gland. The scalpel was exchanged for a probe-pointed bistoury, and when introduced into the bladder was made to cut laterally through the prostate by the side of the stone. The finger was then pushed into the bladder, the stone dislodged from its bed in the prostate, and rapidly extracted by the forceps. The operation was performed in four minutes, and the patient recovered without a bad symptom. It was suggested that the stone might have formed in some cleft or pouch of the prostate left after the former operation, as the apex of the calculus was evidently fixed in the substance of the gland, and thus curiously complicated the lateral operation, whilst its base was free, and projected into the bladder.

The second stone, slightly flattened, nearly two inches long and one broad, was taken from a labourer, æt. fifty-four. He had had the symptoms of stone for two years, and had been a patient under Sir J. Fife six months previously; at which time repeated efforts had been made to discover a stone, but always unsuccessfully, although the bladder was repeatedly filled with fluid. During that period the posterior surface of the bladder, where the left ureter enters, was discovered to be greatly thickened, the convex part of the sound giving the idea to the fingers that it passed over an indurated irregular tumor; and as the alkaline and purulent conditions of the urine showed that there was considerable disease, he was treated with nitrate of silver, alternated with opiate injections, and appropriate general measures. After remaining in the Infirmary for some months, he was discharged somewhat relieved: and when again admitted under Sir J. Fife three weeks ago, the symptoms had become more characteristic of stone, and the flow of urine, for the first time, was frequently checked suddenly before the bladder was empty, and would only pass again when he lay down. A stone was now easily detected at the base of the bladder, whilst the tumour, which was formerly felt at the back of the viscus, had disappeared. It was presumed that the stone had been encysted, most probably at the entrance of the ureter into the bladder, and had ulcerated its way into the cavity of the organ during the period that elapsed between the first and second time he was a patient in the hospital. The stone was extracted in four minutes by the usual lateral operation, and the wound was healing favourably without any unusual symptoms.

Mr. Gibb showed some

Vulcanized India-rubber Sheeting,

almost as thin as cartridge-paper, which had been very successfully used in the Infirmary, cut up as bandages in varicose ulcers, or as a strapping in testitis and other surgical cases, where any degree of pressure was required in the treatment. Several of the bandages were applied, and the pressure found to be so elastic, equal, and, if firmly applied, so powerful as to be very much superior to that of the common bandage. No reverses were required, and the bandages could scarcely be displaced, from the exact manner in which they grasped and adapted themselves to the limb. They also possess the advantage, in consequence of their elasticity, of keeping up a continuous pressure for a longer period after being applied than the cotton bandage, which generally becomes loose soon after it is applied to a swollen limb.

Mr. Gibb also exhibited a

Small Instrument for the Application of Pressure to Glandular Tumors in the Neck or other Parts.

It consisted of two moveable and slightly concave pads, screwed on to the ends of a very light steel instrument, somewhat resembling the Italian tourniquet. A ring of vulcanized India-rubber cast over the arms made any degree of pressure. No difficulty was experienced in applying the instrument upon an enlarged cervical gland in a patient who was wearing it under his neckcloth.

Mr. Robert Davis, of Wreckenton, read the following account of some cases of

Fatal Poisoning from the Gases generated in a Coal-mine by the Explosion of Foul Air:—

On the 5th of June, 1850 (a close sultry day, with constant thunder and lightning), an explosion of gas took place in the Little Usworth Pit, at 9 A.M., and, being surgeon to the colliery, I was sent for. On arriving there a sad scene of confusion and distress presented itself. On a small plot of grass, about 100 yards from the pit mouth, lay the bodies of 7 or 8 men and boys, with their faces turned down over holes hastily dug in the turf for the purpose;* some of these were already dead, others apparently so, the almost imperceptible pulse being the only indication that life was not extinct. As soon as I could ascertain which were living and which were dead (no easy matter in the confusion among the anxious and excited crowd of relatives and friends), the latter were conveyed away, and my whole attention given to the former. To these I administered mustard emetics, dashed cold water over the face and chest, and assisted returning respiration by intermittent pressure; they were then conveyed to their respective homes, put into warm beds, and warm applications, along with friction with the hand and with turpentine, used to the lower extremities and bowels. On some the emetics acted freely, on others but imperfectly; croton oil was then administered, the effect of which, in many cases, was to assist the emetics.

The symptoms present at this stage were a pale anxious countenance, eyes fixed and glassy, with widely dilated pupils, great pain and cramps about the epigastrium, a feeling of deadly sickness; complete loss of power of the lower extremities, whilst the upper were thrown wildly about; great coldness of the skin, especially of the lower parts of the body, and those exposed to the air, and the continued utterance of a melancholy howl, indicative of great suffering, varied occasionally by a low moan.

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* An opinion prevails in this district among the mining population, that the smell of the fresh turf revives the sufferers and expels the noxious gas.

Being now joined by my assistant (Dr. Bleazley), we took the cases seriatim, directing and assisting in carrying out the previous treatment,—viz. friction, with the dashing of cold water on the chest with the hand, and encouraging the respiration by working the chest in imitation of it. The good effect of this treatment was evident in about two hours in all the cases, more particularly so in

Case I.—Ramsay, a lad of 18 years of age, who rallied considerably, became partly conscious, and fell into deep sleep before the fire, from which he awakened in the afternoon so far recovered as to be able to accompany some of his friends to visit the other cases. He was very silly and childish for some days, and his memory very imperfect; but at the end of three days, having gone to Jarrow (some miles distant), we lost sight of him. We afterwards heard that he was ill there, and suffered from the effects of the gas, but ultimately recovered.

Case II.—Gilroy, a boy, æt. 12, had very favourable symptoms after the first treatment. In the evening he was quite conscious, knew his friends, and addressed them by name, took food, and drank freely, and even (being left alone or a few minutes) got out of bed and sat by the fire. His pulse fell to 80, was soft and full, and his respiration became natural; the bowels were acted upon by the purgatives and enemata administered; the urine passed freely, though rather small in quantity, and, excepting a slightly dull and stupid look, appeared to be progressing favourably to a state of convalescence, until Saturday, the 8th. On that day an unfavourable change was evident; the pulse rose in frequency, and lost its tone; he had frequent rigors, and spasms of the muscles, more especially of the back and arm of the right side, producing opisthotonos, and terminating in hemiplegia of that side. The eyes assumed the glassy, fixed, and brilliant appearance so peculiarly remarkable in all these cases, though continuing sensible to light. He now lost all consciousness, and refused to take either food or drink when put into his mouth. A blister was applied to the nape of the neck; a stimulating liniment containing Tinct. Aconiti rubbed over the spine. Gunjah (gr. iii. every two hours) was given with marked advantage in relieving the spasms; but he gradually sunk, and died on the 11th, six days from the accident.

Case III. — Clint, æt. 12, thin, but healthy, had the mark of a blow on his forehead, and was the only one of these cases which had any mark of any injury. His symptoms were bad from the first, and he appeared to have imbibed a large quantity of the gas. He was insensible for about 18 hours; at the end of that time he appeared to know his friends, asked for his brother, who had been killed by the explosion. He suffered apparently from great pain in the bowels, which were very obstinately costive, and were only moved by oft-repeated enemata of turpentine, and purgatives by the mouth. The spasms, as in the last case, affected the muscles of the right side of the body, and those attached in front of the spine, producing emprosthotonos, but were not so constant; they came on first on the evening of the 7th, and were much relieved by the inhalation of chloroform for a few times, but it afterwards lost its effect, though the first trial of it obtained three hours' quiet sleep for the patient. A stimulating mixture, containing Sp. Ammon. Co.; Sp. Æther. Sulph.; et Solut. Morph. Hydrochl., was administered, without any permanent effect; and he died on the evening of the 4th. The pulse never became so nearly natural as in the preceding case.

Case IV.—Luke Shanks, a powerfully built man, of about 30, was similarly held to No. 2; his consciousness partly returned at the end of the first twenty-four hours, but he continued to have a very stupid drunken look, and to speak and act in the same half-conscious manner throughout. On the following day he got out of his bed several times, walked about the floor of the room and took food, especially fluids: when disturbed he swore (of which he was previously not guilty), and seemed under the impression that he was still in the pit. He continued to improve until the 8th, when spasms set in, affecting the muscles of the face particularly, and distorting them frightfully, accompanied by violent delirium, and requiring two men to detain him in bed: his nose having bled a little, spontaneously, leeches were applied to the temples, a blister to the neck, and Cannabis Indica given every two hours, which relieved the tetanic spasm, and obtained him some hours' quiet sleep. On the 9th he was relieved, but relapsed into the previous stupid state, and the pulse became frequent and small. He had Potass Chlorat. 3j., in a pint of water every day as a drink; Ferri Sesquioxyd. ʒj. three times a day, and port wine with water; but he lost flesh rapidly, and gradually sunk till the 17th, when he died, twelve days after the accident.

CASE V. — Gascoigne, æt. 26, a very muscular man, lived about a mile from the pit, and therefore was longer in having the first part of the treatment carried out: he had an emetic when first brought out of the pit, but it acted imperfectly, and his symptoms throughout were very unfavourable. He never became at all conscious; the extremities were with difficulty kept warm by hot applications; the eyes were fixed, and the pupils insensible to light; the muscles of the chest, arms, and abdomen, were drawn up in lumps by the tetanic-like spasms. During the spasms the respiration was difficult, the pupils widely dilated, and the mouth covered with foam, as he uttered piercing groans. Pulse 120, and small; in the intervals he was altogether more calm. The bowels were opened by Ol. Ricini, and enematas of Ol. Terebinth. with Tinct. Assafœtid.; frictions of turpentine were used, warm broth, and stimulants administered. Chloroform was inhaled, but all alike without improvement; and he died on the morning of the 8th.

In all these cases the pulse was about 80, regular and soft between the spasms, but during their continuance rose to 120, or about that; and in all the pulse became more frequent previous to death. There was no cough, or appearance of bronchial irritation; and in those cases that continued so long, a profuse perspiration, particularly during the spasms, was observed.

Autopsy of James Gilroy, who died June 11th, at 11 A.M., *and was opened June 12th, at* 4 P.M. :—

External Appearances.—The whole body very emaciated, rigid, and pale, excepting the most dependent parts, which were of a dark reddish brown; the countenance placid, eyes wide open and brilliant, pupils dilated, lips blue.

Abdomen looking as if decomposition was setting in, but quite flat, not attended with flatus; the fingers (more especially of the right hand) much contracted, and required great force to straighten them. Nails dark blue: the back part of the body quite warm.

On removing the scalp it was found to be very pale and bloodless; on lifting the calvarium the vessels of the dura mater were quite empty, the arachnoid rather opaque, with patches of effused lymph, the pia mater slightly congested. Substance of the brain quite healthy and firm.

In the ventricles more fluid than natural, of a reddish colour; the choroid plexus very pale. On removing the brain a quantity of serum flowed from the spinal canal; it was of a pale red colour, resembling that found in the ventricles.

The anterior and posterior vessels of the spinal cord were gorged with fluid black blood, but the substance was natural and healthy.

The chest, on being opened, exhibited the lungs lying in the posterior part of the cavity quite collapsed, with the anterior edges overlapping the pericardium. The pleural cavity contained no fluid; but, on the contrary, was preternaturally dry, and not having the glistening appearance natural to it. There were no adhesions. The substance of the lung was gorged with bright red fluid blood, more particularly at the apices; the anterior margins pale, with black spots; crepitation between the finger and thumb very slight, and quite warm posteriorly.

The pericardium healthy, containing about an ounce of bloody serum; the right auricle and ventricle very prominent, and filled with very fluid black blood; the muscular substance soft, and dark in colour; there were some small osseous particles in the substance of the mitral valve. The cavities of the left side remarkably empty of clots.

On cutting into the abdominal cavity, the intestines were seen partly filled with flatus, but healthy (except the lower third of the ileum, which presented a dark, congested appearance). The peritoneum was healthy, but, like the pleura, exceedingly dry, and wanting the usual glistening appearance.

The liver was of rather a dark colour, but healthy; the gall-bladder filled with dark, inspissated bile; the spleen small, but healthy; kidneys pale; stomach externally pale, containing a small quantity of a dark yellow thick fluid, also having small patches of a congested appearance.

Mesenteric glands very much enlarged; rectum healthy, containing a small quantity of fluid fæces.

The pelvic viscera were perfectly healthy, but the serous membrane dry, as in the upper part.

In summing up these cases, it is much to be regretted that the time of each individual's exposure to the noxious influence of the gases could not be ascertained with any degree of certainty: the accounts given by the persons who brought them out of the pit were very contradictory, and, in fact, improbable, and some of the worst cases were those first brought up out of the mine.

The first period of insensibility varied very much. In No. 1 it continued for only half an hour; in No. 2 for 12 hours; in No. 3 for 18 hours; and in No. 4, for 24 hours; while No. 5 never became sensible.

No particular symptoms marked the period of returning consciousness: it was gradual, the parties appearing as if awakening from a dream, and continuing in a state of stupidity, resembling the process of recovery from intoxication: the pupils lost their fixed stare, the pulse fell, and became more natural, as also the respiration, as the symptoms of collapse disappeared.

The period of consciousness was accompanied by great restlessness, thirst, and obstinate constipation, but these symptoms of reaction never assumed an inflammatory character, indicating active depletion. No. 2 remained conscious for four days, No. 3 for a few hours only, No. 4 for several days.

The returning insensibility was preceded in all by an increased frequency of pulse, accompanied or (in some instances) followed by violent tetanic spasms.

General sinking, an increase of the convulsions, (hemiplegia in two of the cases), profuse clammy perspirations, hurried breathing, pupils contracted and insensible to light and touch, and complete exhaustion, were the symptoms that ushered in death.

The treatment of the cases, when first brought out of the pit, was such as is usually pursued in this mining district, and was calculated to rouse them from the state of collapse, expel the gas, and oxygenate the blood: the means of generating and administering oxygen in sufficient quantity during the first period were not attainable, and this was and is a source of regret.

After the first period of insensibility, such cases as became conscious appeared to be progressing favourably to a state of convalescence; and, beyond the necessary attention to the bowels, &c., appeared to call for little interference, until the return of insensibility, with its concomitant symptoms, and great tendency to sinking, suggested the use of antispasmodics and stimulants. The deep state of insensibility at first observed, the forcible dilatation and contraction of the pupils, the violent tetanic spasms, involving the whole muscular system, and the difficulty of respiration, led me to infer that the nervous centres were the parts chiefly involved, which was borne out by the autopsy.

EPIDEMIOLOGICAL SOCIETY.

June 2, 1851.

At the ordinary meeting of the Society, held this day, at the house of the Royal Medical and Chirurgical Society, Dr. Babington, the President, in the Chair, Mr. R. H. Cooke read a paper

On the Epidemic Mental Diseases of Children,

founded chiefly on Hecker's "Children's Pilgrimages" and "Sympathy." It commenced with an inquiry as to the propriety of applying the term epidemic to diseases of this class. The chief reason against it lay in the consent of the will, which was requisite to their production. The same objection, it was remarked, would lie against the application of any epithet of pathology to mental disorders. No medical observer of mental phenomena, however, would be disposed to grant to the will that freedom which may be claimed for it by the metaphysician; and the normal characteristic of childhood is the weakness of this self-determining faculty. At first wholly destitute of it, the infant is guided in its movements solely by instincts and stimulants acting upon the reflex nerves. The first impulse to voluntary movement is the instinct of imitation. The first articulations of the child are thus learned, and are only subsequently associated with ideas. This imitative instinct continues strong during childhood and youth, but becomes now an impediment, not a stimulant, to the will.

That this faculty should produce morbid results, it is necessary that, in the feelings or actions of the adults with whom the child is placed in communication, there be something morbid or overwrought.

How widely such a feeling may react upon children was remarkably shewn in the thirteenth century, during the era of the crusades. The popular ardour for the recovery of the Holy Land was still strong, though restrained by the indisposition of the governments. What the men could not do the children undertook. Almost simultaneously, children of all ranks, some girls among them, collected from all parts of Germany and France, and marched in procession to various sea-ports on the Mediterranean. Many perished by the way. Most of those who reached the coast were sold into slavery. The number was estimated at more than 60,000.

In the delusions respecting witchcraft and similar commerce with the invisible world, which prevailed through Europe from the Reformation almost to our own day, the children participated. Some suffered death on their own confession of having familiar intercourse with Satan; and multitudes bore testimony, fatal because unquestioned, against those accused of such practices, swearing that they had been carried through the air by them, had seen their disguises and been privy to their secrets, and that they had been in various ways afflicted by them.

Allusion was made to the well-known convulsive epidemic in the Orphan House of Amsterdam, recorded and treated by Boerhaave.

It was observed that, notwithstanding the general mental excitement of the last half century, and the marked tendency to belief in the supernatural, there was no record of any occurrence similar to those first described: the nearest approach to it, in our times, was the attempt to enlist the children in the advocacy of total abstinence. From extensive inquiries respecting the Orphan Asylums, and the great educational institutions, there did not appear to be any prevalence of imitative convulsive disorders. These immunities were attributed to a better understanding of the position of children in society.

It was suggested that probably much of the epidemic constitution of the present time was due to the repressed excitability. Confessedly it was more nervous than at any previously recorded epoch.

Short of positive illness, there appeared to be an increasing asthenia during five or six years preceding the completion of physical development, apparently the result of exhaustion, and requiring much care, but commonly passing into full health and recruited energy.

In conclusion, it was observed that the office of the medical practitioner and of this society, was not so much to cure these cases, as to direct the public attention to them with a view to their prevention. The evil was in the hands of parents and preceptors. It was suggested that, in some cases, there was an undue call upon children for aid in religious objects. It was, however, a most difficult problem how best to prepare the child to meet the excitement of the world. Probably the chief thing to be supplied was opportunity for bodily activity combined with mental relaxation.

An animated discussion followed, in which Dr. Sibson, Mr. Hunt, Col. Sykes, Mr. Walsh, and Dr. James Bird took part.

At half-past nine Dr. SNOW read the remainder of his paper

On the Mode of Propagation of Cholera,
commencing, however, with an abstract of the portion read at the former meeting. He enumerated many circumstances in the history of Asiatic cholera, and some particular facts, which he considered to prove that the malady was propagated by human intercourse, as, indeed, he believed all epidemic diseases to be. He stated his belief that there was no evidence opposed to the communicability of cholera, for the facts thought to bear this construction were only considered to do so on the assumption that if cholera be communicated, it must extend itself, as the eruptive fevers are believed to do, by means of some emanation given off from the patient into the surrounding air, or by contact with the patient or articles of clothing, &c. which have been near him. Nearly all the arguments which were thought to disprove the communication of cholera would apply equally well to syphilis, did we not happen to know the way in which it is communicated. He considered that cholera always commenced by a local affection of the alimentary canal, and that the constitutional symptoms were always the result of the local disorder. It followed, therefore, that being a communicated disease, and commencing by a local affection, the morbid poison must be applied to the part first affected; that, in short, the cholera poison must be swallowed—must multiply itself in the alimentary canal, and pass off in the fæces and matters vomited; and that the disease must be communicated by these evacuations being accidentally swallowed: this being a method, however, by which the complaint might still be communicated, providing it did not begin in the alimentary canal, but by constitutional symptoms, like the eruptive fevers. He enumerated many circumstances giving a general support to this view of the propagation of cholera: one of these circumstances being its increased prevalence from want of personal cleanliness, whereby those waiting on the sick could not fail to contaminate the food which they ate themselves or prepared for others. Some particular instances of apparent communication of cholera by means of articles of food were also related.

The author continued to the effect that, in his opinion, cholera was likewise often communicated by means of drinking water, owing to the contents of drains and sewers being emptied, either accidentally or systematically, into the source whence supplies of water were taken. He related the particulars of many violent local outbreaks of cholera connected with the contamination of limited portions of water, and stated that the sudden way in which these outbreaks took place, immediately after the evacuations of one or more cholera patients entered the water, precluded the supposition that the impure water was merely a predisposing cause. The great prevalence of cholera in the south districts of London, and in many large towns, was connected with the drinking of river water into which sewers emptied; and in Rotherhithe and Bermondsey—the metropolitan districts in which cholera was most severe—many of the inhabitants had no supply of water except from certain tidal ditches which received great quantities of excrementitious matters. In the towns, such as Birmingham, in which this connection between the sewers and the drinking water did not exist, the cholera either did not spread, or it extended itself only amongst the poor and dirty. All the early cases of cholera in London, in the autumn of 1848, following one in a seaman from Hamburgh, occurred amongst persons who obtained their water by dipping a pail into the Thames, or from St. Bride's pump, which had a communication with the river by means of the Fleet ditch sewer. He believed that several diseases, including abdominal typhus and the plague, were communicated in the same way as cholera, and that ague was often caused by drinking the ditch-water of marshy places. He considered that the progress of cholera could be better stayed by sanitary measures than by quarantine regulations; but the sanitary measures should have a relation to the mode of communication of the disease, or they might be injurious instead of beneficial; the late epidemic of cholera having, he believed, been much aggravated in London, and especially in Hull, by presumed sanitary measures.

The reading of the paper occupied the time of the meeting until a quarter past ten: the discussion was therefore adjourned until the next ordinary meeting in July, when a paper "On the Use and Limits of Statistics, as applied to Epidemic Diseases," by Mr. Hunt, will be read.

ACADEMY OF MEDICINE, PARIS.

May 20, 1851.

American Lepra (Lepra tuberculosa—Elephantiasis.)

M. **Gibert** read a report on a memoir upon this disease, by Dr. Echeverria, translated from the Portuguese, and addressed to the Academy by M. Jules Bourcier, ex-consul of the Republic of Quito. The author, who had himself suffered from the disease, had been confined with sixty-five unfortunate companions in the Lazaretto of Quito. Of this number sixty presented all the characters of lepra. M. Echeverria admitted, with the most ancient authors, two forms of the disease,—the Greek, or tubercular, and the Arabian elephantiasis; both forms being sometimes met with in the same individual.

He admits, besides, two other species of lepra,—the scaly and the crustaceous, both much more rare than the tubercular. M. Echeverria is opposed to the view of the contagiousness of this disease, and adduces facts to show the fallacy of the opinion which thus dooms the victims of this hideous malady to the miseries of Lazaretto. Its hereditary tendency is confirmed by M. Echeverria, who had before him four examples of its transmission in this way.

With respect to treatment, the author deplored the sad custom of declaring incurable every individual attacked with the disease, and sequestrating them as objects of horror and disgust, without medical aid, and cut off from the possibility of intercourse with their fellow creatures beyond the walls.

The report concurred in the views of M. Echeverria, that the subjects of this malady should be treated as patients; not as incurable and dangerous to others, and therefore to be excluded from all social relationships.

M. **Clot-Bey** stated that he had had frequent opportunity of witnessing this disease, which he stated to be prevalent throughout Egypt, being more severe on and towards the sea-coast.

M. Clot-Bey observed that he had seen very many cases in which it had not been transmitted to members of the same family; he doubted the possibility of its communication, and did not consider it to be necessarily hereditary. This is so well known in Egypt, that the people take no precaution for its prevention; they do not hesitate to have leprous servants in their houses, even wet-nurses, with the disease. He had never interdicted nursing when consulted on this point, and had never seen the malady communicated. During a visit which M. Clot-Bey made to Crete some years ago, he had also seen the Greek leprosy. In that country these is a general belief in its contagiousness; but in spite of precautions there are many individuals who conceal the fact of the existence of the disease that they may escape sequestration, and remain in daily communication with healthy persons, without any evil resulting. With respect to treatment, M. Clot-Bey had not been able to arrive at any definite conclusions.

M. **Huzard** stated that he had seen lepra in Senegal, and was convinced that it is not contagious. The lepers are not separated there, and the notion of transmissibility is not entertained in that country.

M. **Girardin** and M. **Ricord** mentioned facts which confirmed the opinion of the non-contagiousness of lepra.

May 27, 1851.

Etiology of the Plague.

M. **Clot-Bey** observed that the Academy might perhaps be surprised that he should enter upon the discussion of a subject which only two years since had been the object of a special examination, and on the elucidation of which so much zeal and pains had been bestowed. The interesting works which had resulted from those labours had destroyed a multitude of errors and prejudices which had been entertained with reference to this disease, and had been the means of the introduction of many improvements into quarantine regulations. But he trusted that, as having passed twenty-five years in Egypt, having made the plague the special object of study, and having assisted at three epidemics, he might be pardoned if he ventured to differ in opinion on some points with the members of the Academy.

M. Clot-Bey first remarked upon the inexactness of the names that have been applied to the disease. The ancient name, he observed, implied nothing; the modern epithet of "Eastern typhus" classed with it many typhoid affections, which were thus represented to have a similar origin. M. Clot-Bey contested this fundamental point, which he asserted was no truer of plague than of cholera, yellow fever, &c. Plague is not a typhoid disease. Typhus exists in Egypt as in Europe, but it never takes on the characters of plague, any more than cholera does those of influenza, or small-pox those of measles. Plague, he added, is not typhus, because the latter is not an epidemic malady, but always dependent on local conditions, and is confined usually to one place, as in camps, beseiged garrisons, prisons, &c., where there is a crowding together of many persons. Typhus is propagated by contact, and its poison may be conveyed to persons; but it does not extend and spread over large districts and to great distances, like influenza and other epidemics. Typhus can no more be said to be epidemic because it attacks a large number of persons, than wounds can be said to be epidemic because a large number are to be met with after a battle. The inundations of the Nile, the decomposition of animal and vegetable substances, the bad system of interments, the marshes, the stagnant water, the prevalence of south winds, &c., are all powerless to produce plague, for it is found to prevail in places where these conditions do not obtain. The epidemic characters are, on the contrary, incontestable; it appears spontaneously at divers points; it attacks sometimes healthy places and spares the most unhealthy. Its progress and termination are the same as with other epidemics.

M. Clot-Bey considered that this was a point of the very greatest importance, in order that time may not be lost in useless precautions founded on groundless theories.

M. Loude expressed his surprise that M. Clot-Bey should state that plague had always existed, and always would exist. It had formerly been frequent in France, and in other parts of Europe; but, by the improved hygienic conditions of those countries, it had disappeared.

M. Clot-Bey answered that this opinion is entirely theoretical. It had pleased (! !) the plague to appear in Europe, no one knew how nor why, and then disappeared. But who could say that it would or would not return? Like the cholera, the plague will revisit Europe when it pleases (!). Absolutely nothing is known of these epidemics. The purification of countries has had little or no influence on the plague. We talk much about infection; these have no influence on epidemics, as the following facts prove:—There prevails in Egypt a fearful epizootic, which had destroyed in a short time seven hundred thousand bullocks. All these animals were thrown into the Nile. Was it possible to accumulate more potent causes of insalubrity? Nevertheless, not one case of plague occurred at that time. Thirty-five thousand persons died of plague in Cairo in 1832. All these bodies were buried close to the surface of the ground: hence infection should have resulted, but it was precisely at that time that the plague ceased.

M. Begin thought that the discussion could not advantageously be continued in its present form. M. Clot-Bey had considered that the report of the Academy was in some points erroneous. If he would, therefore, embody in a distinct work the points he desired to have discussed, some advantage would be gained by their discussion.

M. Clot-Bey agreed to this proposition.

On the Semeiological Value of some Symptoms of Disease of the Liver.

A report was read on an essay by M. Monneret, treating more particularly of the fevers and the hæmorrhages resulting from diseases of the liver. The hepatic fevers may be intermittent or remittent; in the former cases the utmost skill of the physician cannot always distinguish them from the fevers which arise out of malarious influences. M. Monneret divided hepatic disorders into two classes,—the one febrile, the other apyretic, the first being inflammatory. Hepatic fever presents the characters indicated by inflammatory congestions, suppuration, softening, portal phlebitis, and inflammation of the biliary apparatus.

M. Monneret considered the hæmorrhages which so often take place from the stomach, intestines, the uterus, and even occasionally from the respiratory organs, as proceeding from diseases of the liver. Hepatic disease had been found by M. Monneret in twenty fatal cases of hæmorrhage which he had examined.

The report spoke in terms of commendation of this essay, and requested a continuance of the author's researches.

SURGICAL SOCIETY, PARIS.

May 22, 1851.

Continuation of the Discussion on Retro-uterine Hæmatocele.[*]

M. **Robert** reopened the discussion by observing that the seat of the extravasation must be between the uterus and peritoneum. This part of the question might be determined by a careful examination of the pathological specimen presented by M. Monod. With regard to the diagnosis, M. Robert did not think it so easy as M. Nelaton believed; thus, in some cases, it was not easy to distinguish these effusions from certain pelvic abscesses affecting the same situation and developed with greater rapidity. M. Robert remarked, on the subject of treatment, that M. Recamier was the first surgeon who had ventured to open a collection of this kind with the trochar; subsequently M. Recamier had preferred an incision with a bistoury. M. Robert, however, preferred the former method, as incurring less danger of wounding a vessel, besides which the use of the trochar permitted the introduction of a canula, by means of which the blood might be evacuated at intervals. With reference to secondary accidents, there is no doubt, observed M. Robert, a great difference between puncture and incision, the latter exposing the blood to the greater risk of vitiation by contact with the air, and the production of consequent inflammation; and lastly, the use of the canula admits of the free use of injections to wash out the cavity.

M. **Huguier** stated that he had met with several cases of this extravasation; the particulars of these he would lay before the Society on the next occasion. M. Huguier directed attention to an artery as large as a crow-quill, to be met with on the posterior aspect of the uterus, and to be avoided with the greatest care.

M. **Danyau** directed attention to a diagnostic symptom pointed out by M. Nelaton —viz. a distinct violet tint of the mucous membrane covering the tumour, which is to be perceived by the use of the speculum.

Medio-palatine Exostosis as a Symptom of Constitutional Syphilis.

M. **Huguier** had been struck with the frequency of this symptom in syphilis. He considered this, however, to be the result of periostitis rather than of exostosis. This might be distinguished by the result of treatment, which effects the entire removal of periostitis.

Muscular Paralysis following Dislocation about the Shoulder-joint.

M. **Robert** considered this form of paralysis as the effect of an injury done to the nerves by an accident, and not as the result of the means employed for the reduction of the dislocation.

May 28, 1851.

Conclusion of the Discussion on Retro-uterine Sanguineous Tumours.

M. **Huguier** observed that these extravasations are not so entirely new to science as might be thought. An example was to be found in the writings of Ruysch, who considered it to be a deviation of menstruation. Another instance, with a similar explanation, was to be found in the "*Recueil d'observation des erudits de Leipsick for* 1693." Many other collections of cases mentioned retention of blood in the uterus, tubes, and peritoneal sac. Recently, Denœux, in his excellent monograph "*Sur les troubles de la vulve*," cited cases which, according to M. Huguier, should be regarded as tumours of the same character as those under discussion. Lastly, observations of the same kind are to be found in the writings of Dugès, Boivin, Bernous, Piegdaniel, Beau, Nelaton, Pioge, and Vignes. All the facts known with regard to these tumours permit of their being divided into two classes,—the *first*, those in which the effusion takes place in the cellular tissue below the peritoneal *cul-de-sac*, between the rectum and uterus, whence it may spread into the broad ligaments, and arrive at the fallopian tubes, remaining all the time extra-peritoneal. These tumours are owing to venous fulness of the parts; to periodical menstrual congestion; to venereal excesses; to frequent pregnancies; and to varicose vessels. Their exciting causes are violent efforts, as in labour and coitus.

The *second* class includes two species, which M. Huguier distinguishes according to their etiology. The first, which he names a false peri-uterine hæmatocele, is caused by intra-uterine pregnancy, in which the ovum continues to be developed for six weeks or two months, and then dies: there results a cyst, which goes on enlarging, and presents the characters of a true hæmatocele. M. Huguier related the particulars of two cases of tumours situated behind the uterus, in the midst of the contents of which he had met with the debris of the fœtus.

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[*] See p. 968.

The second species, which M. Huguier termed true hæmatocele, is most frequently formed by retention of the menstrual blood in the cavity of the uterus; the blood having distended the uterus, escapes by the tubes into the peritoneum, being lodged in the retro-uterine peritoneal *cul-de-sac*. This species presents several varieties. The tumour may be formed of the distended tubes lodged behind the uterus. It may be caused by an accumulation of blood in the peritoneal sac from rupture of an ovarian vein. Lastly, it may depend upon sanguineous exudation.

The diagnosis of peri-uterine tumours M. Huguier stated to be comparatively easy. Thus: extra-peritoneal tumours are situated low down; they rapidly acquire a large size: the tumours of the *cul-de-sac* are formed more slowly; they excite partial peritonitis, from which result adhesions: the extra-peritoneal tumour is more resistant and harder, and does not exhibit the violet-colour pointed out by M. Nelaton as belonging to those of the tumours of *cul-de-sac*.

In both forms the uterus is displaced and pushed towards the pubis; in the intra-peritoneal the uterus at the same time raised.

The course of the extra-peritoneal tumour is gradual and steadily progressive; that of the other form is irregular, and increases at the menstrual periods. When death takes place in the former, phlegmonous inflammation is found; in the latter species, peritonitis is constantly met with.

ACADEMY OF SCIENCES, PARIS.

May 26, 1851.

Experimental Researches on the Modifications of the Animal Heat produced by different Medicinal Agents.

MM. Dumeril, Demarquay, and Lecointe, communicated a third memoir, which treated of the influence of sedatives and alteratives upon animal food.

1. Sedatives. *Digitalis and Digitaline.* Five experiments had been made with the extract of digitalis. The general result had been an elevation of temperature. In one case a depression of temperature, to the extent of °.5, took place before the elevation. Whether this was owing to its emetic action or to its effects on the heart was not clear. *Digitaline* had produced the same effects.

2. Alteratives. *Arsenious Acid* had been tried five times. In small doses it produced an elevation of temperature. In larger doses, on the contrary, the thermometer was considerably lowered. The introduction of arsenic into the cellular tissue produced the like results as when introduced into the stomach. *Iodide of Potassium and Iodine* produced an elevation, preceded, under large doses, by depression.

3. Mercurials. *Calomel* has generally the effect of lowering the temperature. This effect is, however, more striking with corrosive sublimate.

Correspondence.

LETTER TO LORD ASHLEY ON CRETINISM, AND PUBLIC SANITARY REGULATIONS FOR ITS PREVENTION. BY DR. GUGGENBUHL.

(*From a Correspondent.*)

Dr. Guggenbuhl, the founder of the first sanitary establishment (Psychico-physical Hospital) for cretinism in Europe has pursued the experiment of the cure and alleviation of this disease with marvellous success for the last ten years; and, in a letter to Lord Ashley, gives some of the interesting results which have been obtained on the Abendberg, near Interlachen, in Switzerland. Dr. Guggenbühl hopes that his successful efforts may tend to the general good of mankind, and he considers it to be his mission to go into all countries and labour for the benefit of these unhappy beings.

Cretins are idiots, but with a diseased body, especially a softening of the bones, general relaxation and weakness of the muscles, glandular swellings, &c. Dr. Guggenbühl defines cretinism as "a disease of the cerebro-spinal system, with various physical vices, especially those of a scrofulous character. About one-third are born in this state. In the other two-thirds this terrible disease manifests itself at between two and three years of age. Such physically and psychically weak children are found not only in the valleys of the Alps, but likewise everywhere in large towns. If the children be sent early enough into the institution, many are cured, and others are at least improved. Dr. Guggenbühl has been so successful in the case of an unfortunate boy, whose six brothers and sisters are all cretins, that he can speak two languages, and is now preparing at a seminary in Ghent for the calling of a schoolmaster. Many others have been cured, and are able to attend the schools in their valleys.

With those who have been born cretins, so much cannot be effected, though some learn reading and writing, and may be taught a mechanical trade. It is a great point to improve them as far as possible, for otherwise they sink lower and lower, even beneath the condition of the brute creation.

The remedies employed by Dr. Guggenbühl are partly medical, more particularly steel, preparations of lime, cod-liver oil, friction, electricity, aromatic baths, with a mild nutritious diet, especially milk; partly moral and scholastic, in order to develope the senses and exercise the dormant powers of the mind by means of ocular inspection, comparison, and simple experiments in natural philosophy. A great number of the children can be taught reading and writing, and are capable of learning a simple trade.

Dr. Guggenbühl remarks that the causes of this melancholy degeneracy are very complicated, and consist in a combination of climatic and social influences. "It is quite a mistake," in his opinion, "as recently asserted by M. Grange, at Paris, that the magnesia contained in the water for drinking is the sole cause. Cretinism everywhere has its limits of elevation, which, however, like the snow line, differ in different countries. According to the observations of Dr. Guggenbühl* it is a kind of malaria, prevalent in the valleys, which especially gives the inhabitants a general predisposition to a degeneracy of this kind. This is increased by the defective state of the public sanitary regulations. Dr. Guggenbühl is convinced that, by the introduction of model lodging houses, such as exist in London, by better food, by cultivation of the soil, the draining of morasses, the prevention of intermarriages, &c., the axe may be laid at the root of cretinism. According to the plan of this Swiss philanthropist a society is to be formed for carrying out this humane object.

In a tour which Dr. Guggenbühl made through England, he found cretinism prevailing in several stages and forms in several of the counties, especially at Chiselborough, in Somersetshire, at Settle and Silverdale, in Lancashire, and in several places in Derbyshire. The British Association has turned its attention to this important subject, and, at a Meeting in Edinburgh, resolved to investigate the origin and spread of this condition in Great Britain. Dr. Coldstream referred especially to Dr. Guggenbühl's work on the Abendberg as having opened a new field of inquiry, and being in itself eminently worthy of the attention and countenance of the friends of humanity in all countries: we hope, therefore, that British physicians will give an increased share of their attention and sympathy to this important object.

HOMŒOPATHIC PRACTITIONERS, AND THE DEGREE OF M.D. OF ST. ANDREW'S.

SIR,—The University of Edinburgh has publicly announced its repudiation of Homœopathy: therefore no person practising this delusion can henceforth hope to borrow the lustre of the degree of M.D. from that University. This example has not been sufficiently followed.

A neighbour of mine, who practises the infinitesimal quackery of globulism, has lately come out as a full-blown DOCTOR, having taken his degree at St. Andrew's. I have been told that that person practises "either system," as the patient may desire! Perhaps this elasticity of conscience will resolve the difficulty which I think must have occurred to him in answering the questions that were given at the St. Andrew's examination, among which were the following:—

"Name the emetics included in the Pharmacopœia, and state the *doses in which they should be prescribed*. Mention the *purposes for which they are generally ordered*, and *the cases in which they may prove dangerous*."

"What are croton oil, jalap, aloes, gamboge, scammony, and elaterium? Name the cases in which they are specially applicable, and *the form and dose in which you usually prescribe them?*"

"Write a Latin prescription for an expectorant mixture," "also for a warm aperient draught."

It is perfectly obvious that a "*globulist*," possessing common honesty, must have felt himself in a dilemma before such questions. If he had any faith in his "principles," he would, if a man of honour, have avowed his abhorrence of such dreadful poisons as he was thus asked to make use of; he would have shrunk from the abandonment of those principles involved in the answers which he must have given to allopathic examiners. "Qui non liberè veritatem pronunciat, proditor est veritatis." Did he answer these questions homœopathically? What honour can an individual who denounces scientific medicine imagine that he derives from a degree conferr University which ignores the practice that he follows? For surely it cannot be supposed that St. Andrew's does not participate in the praiseworthy indignation with which Edinburgh casts off her spurious offspring.

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* Published by Williams and Norgate, Henrietta Street, Covent Garden.

Is not the procuring the title of M.D., under such circumstances, a plain fraud, a dishonest sailing under false colours?—not only the assuming of a dignity which does not belong to the bearer, but also misleading the public still further, by making it appear that Medical Universities sanction the quackery of Hahnemannism.

It is time that the public examining bodies expressed their opinions of such impositions as these. Let them follow the example set by Edinburgh, or let them openly declare that there is no science of medicine; that all medical practice is but mere guess-work; and that the safest plan for a non-professional person to follow when ill is to do nothing.—I am, sir,

Your obedient servant,

SCRUTATOR.

June 2, 1851.

THE QUEEN'S COLLEGE, BIRMINGHAM.

THE Rev. Dr. Samuel Wilson Warneford has presented to his Trustees—the Rev. Chancellor James T. Law, the Rev. Vaughan Thomas, B.D., and William Sands Cox, F.R.S.—the munificent donation of £500 towards the completion of the east wing of the quadrangle. He has also augmented to £4400 his endowment for the Professorship of Pastoral Theology, in addition to his former endowments of £2000 for the Wardenship and Lectures on Morals and Theology; £2000 for the Chaplaincy of the College and Queen's Hospital; and £3000 endowments for Medical Scholarships, Medical Prizes, and a resident Medical Tutor.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 5th June, 1851:—Horatio William Costerton, Great Yarmouth—Charles Brettingham, Finchley Road—Horatio George Anthony Wright, Stockwell—John Freeman Wright, London—Stephen Orson Lane, Brametun, Devon.

OBITUARY.

ON the 5th inst., at Fulham, deeply lamented, aged 33, Samuel Baker Rowland, Esq., Surgeon, and late Surgeon to the Royal West India mail steamer Tweed, when wrecked on the Alacranes reef of rocks, 11th February, 1847; and also to the Royal West India mail steamer Forth, wrecked on the same reef, 14th of January 1849.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 7.

BIRTHS.		DEATHS.	
Males....	735	Males....	510
Females..	711	Females..	451
	1446		961

CAUSES OF DEATH.

ALL CAUSES	961
SPECIFIED CAUSES	958
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	207
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	53
2. Brain, Spinal Marrow, Nerves, and Senses	106
4. Heart and Bloodvessels..........	37
5. Lungs and organs of Respiration	161
6. Stomach, Liver, &c.	57
7. Diseases of the Kidneys, &c.	17
8. Childbirth, Diseases of Uterus, &c.	6
9. Rheumatism, Diseases of Bones, Joints, &c.	6
10. Skin............................	0
11. Premature Birth	21
12. Old Age	37
13. Sudden Deaths..................	3
14. Violence, Privation, Cold, &c....	27

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	16	Convulsions........	36
Measles............	39	Bronchitis	64
Scarlatina	15	Pneumonia	71
Hooping-cough	47	Phthisis	146
Diarrhœa..........	11	Lungs	4
Cholera............	0	Teething	11
Typhus	46	Stomach	4
Dropsy	17	Liver..............	12
Hydrocephalus	29		
Apoplexy	24	Childbirth	3
Paralysis	17	Uterus	3

REMARKS.—The total number of deaths was 98 *above* the average mortality of the 23d week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer .... 29·84

" " " Thermometer[a] ...... 55·2

Self-registering do.[b] .... Max. 87·5 Min. 31·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·17.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 3°.5 *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. Pretty.—The paper has been received, and will be inserted. A copy will be forwarded.

Mr. W. Craig.—The article is under consideration. A private letter will be sent in answer to the inquiry.

Mr. J. Thomas.—We do not perceive that any object would be gained by the publication of the letter. The matter is now under consideration, and there is a fair prospect of an amicable settlement.

The continuation paper from Mr. C. S. Bate has come to hand.

Mr. Ramsbotham's communication shall receive our attention.

Rogo.—We entertain no doubt that all who possess the Apothecaries' license will retain the privileges which they now enjoy: they will be considered as general practitioners.

Mr. Kemp's letter was received too late for the present number.

We regret to be obliged to postpone the contributions of Dr. Radford, Mr. C. Taylor, Mr. Gallwey, Dr. Nevins, and Dr. Ogston.

Lectures.

LECTURES ON TUMOURS,

Delivered in the Theatre of the Royal College of Surgeons of England.

By James Paget,
Professor of Anatomy and Surgery to the College.

Lecture III.

Compound or proliferous cysts—Their distinction from clustered cysts—Modes of origin. 1. Cysts, having cysts developed in or upon their walls: exemplified in the proliferous ovarian cysts, and the cystic disease of the chorion. 2. Cysts, having glandular or other vascular growths springing from their walls; as exemplified in the "serocystic sarcomata" of the breast, the lip, and other parts. 3. Cysts, with cancerous growths from their walls. 4. Cutaneous cysts, in the ovary, brow, lung, &c.—Sebaceous and epidermal cysts—Cholesteatoma. 5. Cysts with teeth, in the ovary and the jaw.

In the last lecture I traced and illustrated the formation of simple or barren cysts,—the cysts that have only liquid contents. Among these, the instances of the highest productive power appear to be in the cysts that secrete a seminal fluid, and those that are lined with a complete secreting epithelium. In the present lecture, I propose to describe the cysts that have the power of producing more highly organized, and even vascular, structures; or, as they may be generally named, proliferous cysts.[*]

These include such as are often called "compound cysts," or "compound cystoid growths;" but I would avoid these terms, because they do not suggest the difference between the cysts with endogenous growths and those that may appear equally compound, though they are only simple cysts clustered or grouped together. This difference should be clearly marked in names, for it generally is so in nature. In an ovary, for example, it is not unfrequent to find many small cysts, formed, apparently, by the coincident enlargement of separate Graafian vesicles. These lie close and mutually compressed; and, as they all enlarge together, and, by the wasting of their partition-walls, come into communication, they may at length look like a single many-chambered cyst, having its one proper wall formed by the extended fibrous covering of the ovary. Many multilocular cysts, as they are named, are only groups of close-packed single cysts; though, when examined in late periods of their growth—and especially when one of the group of cysts enlarges much more than the rest—it may be difficult to distinguish them from some of the proliferous cysts.

Of the first formation of cysts that may be proliferous I need not speak; for, as far as is at present known, they may be formed exactly as the barren cysts are. A cyst may be proliferous in whichever of the plans described in the last lecture it may have had its origin. Thus, 1, bursæ, formed by expansion and rarefying of areolar spaces, may be found with organized, pendulous, or loose growths from their walls.[*] 2. Among the cysts formed by growth of natural cavities or obstructed ducts, we have instances of surpassing proliferous power in the ovarian cysts from Graafian vesicles, and of less power in some cases of dilated lactiferous tubes and dilated veins.[†] And 3. Among the autogenous cysts we find, in the breast and other glands, some of the principal examples from which the following history of proliferous cysts will be derived.

The account given in the last lecture of the modes of origin of barren cysts may therefore, so far as the cyst is concerned, suffice for the proliferous; and I shall now need to speak of only the intra-cystic productions, the differences of which may decide the grouping of the whole division of proliferous cysts.

1. The first group includes the cysts which have others growing in or upon their walls. Of these, two chief examples are presented, in the complex ovarian cysts, and in the cystic disease of the chorion or "hydatid mole."

The principal varieties of the complex ovarian cysts have been described to the very life by Dr. Hodgkin, to whom we are indebted for the first knowledge of their true pathology. But, since his minute description of them is or should be well known, I will more briefly say that, according to his arrangement, we may find in these pro-

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[*] Under this name are here included the serocystic sarcomata of Sir B. C. Brodie (Lectures on Pathology and Surgery); most of the specimens of Cysto-sarcoma phyllodes and proliferum of Müller (on Cancer); and most of the tuberous cystic tumours of Mr. Cæsar Hawkins (Medical Gazette, vol. xxi. p. 951).

[*] Museum Coll. Surg., 367, &c. See, also, a case by Mr. Cæsar Hawkins (Medical Gazette, vol. xxi. p. 951). Perhaps, also, the case may be here referred to in which Mr. Hunter found loose bodies in a cavity formed round the ends of the bones in an ununited fracture. Museum Coll. Surg., No. 469, 470.

[†] Museum of St. Bartholomew's Hospital, Appendix 10; and see last lecture.

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liferous ovarian cysts two principal or extreme forms of endogenous cysts; namely, those that are broad-based and spheroidal, imitating more or less the characters of the parent cyst, and those that are slender, pedunculated, clustered, and thin-walled. Between these forms, indeed, many transitional and many mixed forms may be found; yet it is convenient to distinguish the two extremes.

A typical example of the first is in No. 166 in the College-Museum. It is an Hunterian specimen; and the mode of preparation shows that Mr. Hunter had clearly apprehended the peculiarities of its structure. It is a large cyst, with tough, compact, and laminated walls, polished on both their surfaces. On its inner surface there project, with broad bases, many smaller cysts, of various sizes, and variously grouped and accumulated. These nearly fill the cavity of the parent cyst; many of them are globular; many deviate from the globular form through mutual compression; and within many of them are similar but more thinly walled cysts of a third order.

Here the endogenous cysts, projecting inwards, appear to have nearly filled the cavity of the principal or parent cyst; and this filling-up is complete in another specimen,[*] in which there remains, in the middle of the parent-cyst, only a narrow space, bounded by the endogenous cysts converging in their growth from all parts of the parent walls.

For a typical example of the slender, thin-walled, pedunculated, and clustered form of endogenous cysts, I may adduce a specimen from the museum of St. Bartholomew's Hospital.[†] It shows part of the thick laminated wall of an ovarian cyst, the inner surface of which is thickly covered with crowds of pyriform and leaf-like pellucid vesicles, heaped together, and one above another. This is a comparatively simple specimen of the kind: in the more complex, the endogenous cysts or vesicles are multiplied a thousand-fold, and clustered in large lobed and warty-looking masses that nearly fill the cavity of the cyst. Specimens of this kind are among the most valuable possessions of the museum of Guy's Hospital.

The College-Museum furnishes specimens of the forms intermediate between these extremes,[‡] in which the endogenous cysts of the second and third orders have walls that are not pellucid, yet are thin and vascular, and are attached by pedicles rather than by broad bases. And, again, specimens of mixed forms are found,[§] in which the parent cyst-wall bears, at one part, oval and spherical membranous cysts developed beneath its lining membrane, which they raise in low convex projections into its cavity; and at another part, groups of small leaf-like, narrowly pedunculated, and pendulous cysts.

But a lecture would not suffice to describe, even briefly, the variety of forms into which these ovarian proliferous cysts may deviate. Whether we regard their walls, the arrangement and shape of the endogenous cysts, their seats and modes of origin, their various contents, and the yet greater differences engendered by disease, they are so multiform that even imagination could hardly pass the boundaries of their diversity. It must suffice to refer to Dr. Hodgkin's works for an elabarate account of the structure and arrangement of the cysts; and to the essays of Dr. Tilt[*] for descriptions of their contents.

The foregoing account of the structure of these cyst-bearing cysts in the ovaries is derived entirely from naked eye observations. Respecting the mode of generation of the endogenous cysts, it could only be supposed that they are derived from germs developed in the parent cyst-walls, and thence, as they grow into secondary cysts, projecting into the parent-cavity; or disparting the mid-layers of the walls, and remaining quite enclosed between them; or more rarely growing outwards, and projecting into the cavity of the peritoneum.[†]

But a more complete illustration of the origin of such secondary cysts, and a good confirmation of what I have been describing, may be drawn from Dr. Mettenheimer's lately published investigations on the microscopic structure of the cystic disease of the chorion.[‡]

The general characters of this diseases constituting the hydatid mole, are well known. A part, or even the whole, of the chorion is covered with pellucid vesicle, with limpid contents, borne on long, slender, and often branching pedicles. The cysts are usually oval or pyriform; their walls are clear, or have minute opaque dots; they may either be simple or may bear others projecting from their walls.

Dr. Mettenheimer has found that the minute dots besetting these cysts are villous processes, exactly resembling those of the natural chorion, and growing from the walls of the cysts, either outwardly or into their cavities. In these villi he traced the development of cysts. In their natural state, they may be described as filiform or clavate processes, often branching and bearing bud-like projections, and composed of dimly-granular substance, in which are imbedded minute nucleated cells. In this cystic disease, vesicular bodies may be seen scattered among the cells in the villi, which bodies are distinguished from the cells by their pellucidity, their larger size, and double contours; but, from the cells to these, every gradation may be so traced as to leave scarcely a doubt that the vesicles are derived from cells deviating from their normal characters. Thus in some of the cells the contents are seen lighter and less granular; in some they have entirely disappeared, without increase of size; and then, when their contents are thus become uniformly pellucid, and they have acquired the character of vesicles, the cells appear to grow, while their walls become stronger, and they acquire such a size that they are recognised as very small cysts, similar, in all but their size, to those which are visible to the naked eye.

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[*] Mus. Coll. Surg., No. 2622.
[†] Series xxxi. 18.
[‡] Nos. 165 A, and 165 B.
[§] No. 2621.

[*] Lancet, 1849.

[†] No. 2622 in the College Museum presents an instance of the endogenous and exogenous modes of growth in the same specimen.

[‡] Müller's Archiv, 1850, H. v. p. 417. His account, though different in interpretation, is consistent, as to facts, with one by Gierse and H. Meckel in the Verhandl. der Gesellsch. für Geburtshülfe in Berlin, 1847.

Now, though this formation of cysts has been traced by Mettenheimer only in the villi which grow on the cysts themselves, and therefore, so to speak, only in the production of the cysts of the second and later generations, yet there can be little doubt that the first cysts in the diseased chorion are formed in its own villi after the same manner. For the villi borne on the cysts are, in all essential characters, like those natural to the chorion; and the cysts of all generations are equally like. The whole process may, therefore, be probably thus described:—Certain of the cells in the proper villi of the chorion, deviating from their cell-form, and increasing disproportionately in size, form cysts, which remain connected by the gradually elongated and hypertrophied tissue of the villi. "On the outer surface of the new-formed cysts, each of which would, as it were, repeat the chorion and surpass its powers, a new vegetation of villi sprouts out, of the same structure as the proper villi of the chorion. In these begins again a similar development of cysts; and so on *ad infinitum*." Each cyst, as it enlarges, seems to lead to the wasting of the cells around it; and then, moving away from the villus in which it was formed, it draws out the base of the villus, which strengthens itself, and forms the pedicle on which the cyst remains suspended.

Such is the account of the minute structure and formation of the cystic disease of the chorion; and perhaps no instance could afford a better confirmation of the production of cysts by the enormous growth of elementary cells, or a better type of the capacity of cysts thus formed to produce structures resembling those in the abnormities of which themselves originated. A similar capacity is among the characters of all the cysts of which I shall next have to speak.

2. I pass now to the consideration of the cysts that are proliferous with vascular growths from their internal surfaces.[*]

The first group of them may include those that bear glandular growths—the "glandular proliferous cysts," as we may call them, because the minute structure of the substance growing into them is, in its perfect state, exactly comparable with that of a secreting or vascular gland.

Such cysts form part of the group to which the name of "sero-cystic sarcoma" was given by Sir B. C. Brodie, who first clearly distinguished them.[†] They are also part of those which furnished to Dr. Hodgkin the chief grounds for his well-known theory of the formation of solid tumours—a theory which, in regard to at least these growths, has good foundation.

The chief seats of the formation of glandular proliferous cysts are the mammary and thyroid glands. Their history in the thyroid, in which their formation scarcely passes the bounds of health, is amply illustrated in the often cited works of Frerichs and Rokitansky, to which, as well as to the paper by Mr. Simon[‡] on the natural structure of the gland, I must, for brevity's sake, refer.

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[*] It may be well to refer to the fact that abnormal growths upon natural free surfaces commonly affect the same forms as will be described in the following account of the growths in cysts. The chief forms are three—namely, 1st, that of groups of slender, small, and pedunculated bodies; 2d, that of larger round pendulous masses; 3d, that of nearly level, slightly elevated layers, such as granulations. Thus, for groups of pedunculated leaf-like processes, we have (*a*) the growths that are so frequent in chronic rheumatic diseases of joints, from some of which Müller draws his account of *lipoma arborescens*; (*b*) many warty cancerous growths on the skin, which appear like cancerous overgrowths of the papillæ; (*c*) similar growths in the larynx about the vocal cords. Of the larger round, pedunculated masses, growing on free surfaces, instances exist in the medullary cancers of the urinary bladder, the polypi of the intestines and stomach, the pendulous outgrowths of the skin. And of the flatter, and more nearly level layers, the condylomatous outgrowths of skin, the epithelial cancers of the stomach and intestines, and the cheloid growths, often afford examples. However, there is no more in this resemblance than another instance of the tendency of the growths in cysts to imitate those on natural parts.

[†] The disease is admirably illustrated by the specimens in the Museum of the College, and in those of St. George's, Guy's, and St. Bartholomew's Hospitals

[‡] Philosophical Transactions, 1844, part ii.

A series of preparations in the Museum* clearly illustrates the corresponding process in the mammary gland;† but here the conditions are far more remote from the normal type. If we may believe that a series of specimens may be read as the continuous history of one case, because they seem to present successive phases of the same disease, then, we may suppose, first, the existence of a cyst, or of a collection of cysts in the mammary gland. Such cysts may, possibly, be formed by the dilatation of parts of ducts; but much more commonly, if not always, the cysts that bear vascular growths are derived through transformation and enormous growth of some elementary structure of the gland.‡ So far as I know, there is nothing peculiar in the structure of the mammary cysts that may be proliferous. They are usually ovoid or spherical, unless by mutual compression: they usually appear formed of thin fibro-cellular tissue, with or without nucleus-fibres: they have abundant blood-vessels, and are closely adherent to the surrounding parts: their walls are peculiarly apt in disease to become œdematous, succulent, and almost gelatinous. They may grow to an enormous size: a specimen is in the museum of St. George's Hospital, in which a cyst, that would contain more than two pints of fluid, has some lowly lobed growths from one portion of its inner surface; one in the College Museum, removed by Mr. Liston, weighed twelve pounds; and Dr. Warren relates a case in which he removed a tumour of this kind of thirteen pounds weight. The cysts may contain any of the varieties of serous or bloody fluid, clear or turbid, that I described in the last lecture.

Now, from some part of the inner surface of such a cyst, a vascular growth may spring; and, gradually increasing at a rate beyond that of the increase of the cyst, it fills more and more of the cavity. At length, the growth wholly excludes the fluid contents of the cyst, and its surfaces come in contact with the remainder of the cyst-walls. The growth may now coalesce with the walls of the cyst, and form one solid tumour, enclosed in and connected with them, just as ordinary solid tumours are invested and connected with their fibro-cellular capsules. Or, growing yet further and more rapidly, the growth, hitherto intra-cystic, may protrude through its cyst-walls and the superjacent integuments,—protruding through them like a hernia of the brain, growing exuberantly over the adjacent skin, and, like such a hernia, reproduced when cut away.

The time in which these changes may be accomplished is extremely various. Usually, the increase of the intra-cystic growth appears to be painless, and it may be very slow: ten years or more may pass with little change; but the increase is generally faster, and it often shows an accelerating rate; so that, late in the disease, the progress is extremely quick, even quicker than that of most cancerous growths.

The characters of the intra-cystic mammary growths are various, not only according to our observations of them at different periods of their existence, but, apparently, even from their very origin. In looking through a large series of them, while they are still in early periods of their development, we may reduce them to these chief forms; namely, (*a*) low, broad-based, convex layers, like coarse granulations; (*b*) spheroidal, lobed, and nodulated masses, cauliflower-like, attached by narrower bases; (*c*) masses or clusters of pedunculated leaf-like processes, slender, single or variously branched, and interlaced in all possible forms; (*d*) masses of firmer and much paler substance, appearing as if formed of close-packed lobes, or fimbriated processes, or involuted layers.

In apparent structure, also, the varieties of these growths are scarcely less numerous. (*a*) Some of them are opaque, yellow, and soft, yet elastic, and rather tough, so as to be separable in laminæ like fibrine-clot; (*b*) others are more vascular, succulent, and spongy, like granulations; (*c*) others are like layers and masses, or heaped-up layers, of gelatine, not firmer than size, or even like vitreous humour, yielding a tenacious synovia like fluid; (*d*) others are firm, compact, nearly pure white, imitating the mammary gland, but not succulent.

To these varieties of appearance we might add yet more, due either (*a*) to diverse shades of yellow, pink, grey, or purple; or (*b*) to the various clustering and incomplete fulness of the cysts; or (*c*) to the increasing firmness of the growths and their fusion with the cell-walls; or (*d*) to the development of new barren or proliferous cysts in the solid growths that now fill the cysts of a former generation; or (*e*) to various changes of decay or disease ensuing in either the cyst-walls or their contents.

It would be too tedious to describe all these varieties, especially while we do not yet know whether, or in what degree, these forms are related to one another or to any one typical condition of the intra-cystic growths.

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* Nos. 168 to 172, &c.

† All the cases recorded have occurred in the female breast, except two—one by Mr. Arnott; MEDICAL GAZETTE, xxii. 378: and one by Müller; "On Cancer," p. 150.

‡ On the difference between the solid contents of dilated ducts and those of the proper or autogenous cysts, see Mr. Birkett's account in his Essay on the Diseases of the Breast.

Respecting their minute structure, we have good guidance in the probability that the proper mammary glandular tumours—the chronic mammary tumours of Sir A. Cooper—have their origin in intra-cystic growths transformed into solid tumours in the manner just described. These mammary glandular tumours are composed of minute structures closely imitating those of the gland itself. They present microscopic lobes, and fine tubules, lined or filled with nuclei and nucleated cells, like those of secreting organs; these, inclosed within pellucid membrane, form a pseudo-glandular substance, such as, we might suppose, needs only a main duct to enable it to discharge the office of a mammary gland. In like manner and degree, in some specimens in which the cysts and their contained growths are still easily separable, we can discern in the growths a likeness to the mammary gland itself in their minute structure.

These facts have been observed especially by Mr. Birkett, and were very well marked in a case which I was recently able to examine. It was a very large protruding tumour of the breast, removed by Mr. Lawrence from a lady 55 years old. It had been observed for thirty years, remaining like a small knot for twenty-six years, and then slowly increasing, till, at the end of five years, a red fungous mass protruded from the breast, bled freely sometimes, and discharged profusely. This, too, increased quickly, and was painful. The whole breast was removed, and the patient recovered.

The tumour measured nearly seven inches by five. The part which did not protrude beyond the level of the skin was imbedded in the substance of the gland. It consisted of numerous lobes of various sizes and shapes, and variously divided into smaller lobes; all being evidently formed of distinct cysts closely packed and compressed together. Most of these cysts were filled with intra-cystic growths; yet in many of them it was easy to pass a thin body between their walls and the surfaces of the growths, which were fixed to them on only one part of their walls. In the protruding part the same general plan of structure could be discerned, but less distinctly.

Among the solid growths that filled the cysts some showed clavate, close-packed lobes; some were nearly simple: nearly all were pale, white, greyish or yellowish, and smooth and shining; a few were spotted yellow from degeneration of their tissue. Repeated examinations showed that all these intra-cystic growths consisted essentially of a tissue closely imitating that of a gland. The edges and surfaces of the examined portions were minutely lobed or acinous, like terminal cæca. These were inclosed by well-defined, pellucid, limitary membrane; and their cavities were full of nuclei and nucleated cells, like mammary gland-cells, with some granular matter. Except in that these acini led to no distinct ducts, but seemed confusedly heaped together, the imitation of gland-structure was complete.

Now the glandular nature of these growths in the best marked cases of proliferous mammary cysts, and the probably constant relation of the mammary glandular tumours to them, as well as the analogy of the intra-cystic thyroid growths, make it probable that, in all cases, the growths within the mammary cysts are of essentially the same glandular nature, and that their various appearances are due to their being in rudimental, or degenerate, or diseased states. But we cannot be sure of this. In three cases in which I have minutely examined soft intra-cystic growths I could not recognise a glandular structure. In all, I found a basis-substance, like a blastema, which was pellucid, soft, and in one case diffluent; it had little or no appearance of fibrous structure, and no distinct fibres, but, rather, the uniformity as well as the consistence of soft gelatine. In it, as in a blastema, were imbedded nuclei and cells, which chiefly presented the forms of developing fibro-cellular tissue, like those in granulations, or lymph of inflammatory exudation: or their forms might be explained, I think, by the disorderly conditions of their production and development. Nearly similar, and equally indecisive results appear from an accurate observation of such a growth by Dr. Mettenheimer,* and from two cases related by Bruch.†

Perhaps we may conclude that in these specimens the intra-cystic growths were in a rudimental, or in a morbid, state; that the general destiny of such growths is towards a glandular structure, but that in these and the like instances they fall short of it, or swerve from the right course: but I would rather not form any conclusion at present. These are just the cases of which, as yet, the interpretation is scarcely possible, while we are ignorant of the changes that may ensue during development, degeneration, and disease.

I have said that the mammary and thyroid glands might be regarded as the elected seats for cysts having glandular growths; but they are sometimes met with in other parts, as in the prostate, and, I believe, also in the lip. In the Museum at St. George's Hospital is a tumour removed from a man's upper lip, in which it had been growing, without pain, for 8½ years. One half of it is a cyst that was filled with a thin flaky fluid, and was thought to be a dilated labial salivary duct; the other half is a solid tumour, just like a glandular tumour of the lip which I shall describe in a future lecture. The combination of a barren cyst with a proliferous one, which it seems to illustrate, is not rare in the mammary gland. In the same Museum is a cyst, with a broad vascular growth, like granulations, from its walls, which was taken from a girl's labium by Mr. Cutler. It has a small external opening, suggesting that it may have had its origin in a cystic, mucous, or sebaceous gland. Here, too, is an Hunterian specimen* of a thick-walled cyst, from the cheek of an old woman, which contains two large, lobed, and pedunculated masses so like some of those found in the mammary cysts, that we can hardly doubt their glandular nature.

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* Müller's Archiv., 1850, H. iii.

† Die Diagnose der bösartigen Geschwülste, p. 185-191.

All these specimens, however, need more minute examination; at present they only make it probable that any cyst originating in or near a secreting gland may be the parent, or the habitation, of an endogenous glandular growth.

To this account of glanduliferous cysts it must be added, that their characters may be closely imitated by cysts formed in parts altogether disconnected from secreting glands. It is not, indeed, probable that the contained growths in such cysts are glandular; yet they present characters like the softer growths that are found in the mammary cysts.

I found one of these proliferous cysts beneath the gracilis and adductor longus muscles of a woman 25 years old. It was a large spheroidal mass, which felt as if held down tightly on the front of the pelvis, and had pushed the femoral vessels a little outwards. It lay too deep to form a clear diagnosis of its nature; it was assigned to no distinct cause; it had been noticed for only seven months, but when first seen was "as large as a tea-cup." I removed it without much difficuly; for it was not closely adherent to the parts, except to a small portion of the front of the pubes, where it rested on the adductor brevis. The patient has since remained well for more than two years.

The tumour was spheroidal, about four inches in diameter, and consisted chiefly of cysts, from two of which six or eight ounces of turbid serous fluid escaped when they were cut across. One of these cysts was thickly lined with pale, brownish, fibrinous substance, like that which one finds in old hæmatoceles; and this appeared as fibrine on minute examination. Another was nearly filled with a ruddy mass, in most parts soft and succulent, like blood-stained gelatine. Much of this mass was also like fibrine-clot, with abundant corpuscles; but the layers of it next the cyst-walls were firmer than the central parts, and contained all the forms that one finds in common granulations developing into fibro-cellular tissue. The microscopic likeness to granulations was, in these parts, exact. The rest of the tumour, including some large portions between the cysts, consisted of fibro-cellular tissue more or less perfectly developed.*

A similar tumour was removed by Mr. Lawrence from the exactly corresponding part of a woman, 50 years old, in whom it had grown slowly, and without pain, for nine or ten years. It gave the sensation of a firm fatty tumor, as large as an egg, but when removed was found to be a bilocular cyst. Each cavity contained, together with serous fluid, a soft, reddish, gelatinous-looking mass, like a polypus in one, and solid and folded in the other. The cyst-walls were tough, pure-white, formed of fibro-cellular tissue, and polished on their inner surface. The intracystic growths consisted of a structureless or dimly granular or fibrillating blastema, with abundant oily molecules, granule-cells, and corpuscles, like nuclei or cytoblasts, imbedded in it.

And to these two instances, since the disease seems very rare, I may add a third. A girl, twenty-three years old, under the care of Mr. Lawrence, had a pyriform pendulous tumour in her neck, about 2½ inches long. Its surface was ulcerated, livid, and painful, and bled occasionally. Its history was doubtful; but it had existed for at least a year. On removal, it appeared to have grown in the subcutaneous tissue, and to be composed of a collection of cysts, closely and irregularly packed, and, for the most past, filled with lobed, soft, cauliflower-like growths from parts of their walls. It closely resembled, in its general aspect, the collections of proliferous cysts, with soft intra-cystic growths in the mammary gland. In microscopic structure the intra-cystic growths appeared composed entirely of corpuscles, like those of lymph or granulations: but my record of the examination is too incomplete for a clear account of them.

I believe that all the cysts that I have spoken of, before these containing glandular growths, may be regarded as completely void of the characters of malignant disease; at least, I have met with no evidence contrary to this statement. And, in general, the reputation of innocency is deserved by the glanduliferous cysts also. Yet there are cases which show that such tumours may have an almost irremediable tendency to recur after removal. A healthy robust woman, 37 years old, was under Mr. Lawrence, with a very large protruding tumour in her right breast. This had been slowly increasing for ten years, but, till lately, had given little uneasiness, except by its bulk, and had not hindered her nursing. Mr. Lawrence removed the greater part of the breast and the tumour in 1844. It weighed 7½ pounds, and was a well-marked example of that form of "sero-cystic sarcoma," in which the cyst-walls, as if altered by inflammation, or imperfectly formed, are soft, succulent, and glistening, with solid growths of similar substance, lobed and fissured. Many cysts in it still contained serous fluid. Its appearance when recent, and even now as preserved,[*] leaves no room for doubt as to its nature.

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* Mus. Coll. Surg. No. 167.

* The tumour is in the Museum of St. Bartholomew's Hospital.

The patient remained well for fifteen months; then a tumour began to grow under the scar, and quickly increased. After nine months' growth, Mr. Lawrence removed this also, with all the surrounding tissues. It was a soft, pale, pinkish, and yellowish mass, like soft size or jelly. It was lobed and folded, and included some irregular spaces, containing a fluid like mucus, or half-melted jelly. It was like the solid parts of the tumour last removed, and consisted of a pellucid dimly fibrillated blastema or basis-substance, in which were imbedded nuclei and abundant granulo-cells, of various forms. The sketches and account of these, which I drew at the time, make me still sure that they had none of the characters of cancer-cells, but were like nuclei or cytoblasts of ordinary form or elongated, many of which were changed by fatty or granular degeneration.

After this second operation, the patient remained well for seven months, and fully regained her stout robust appearance. But now a third tumour appeared; a fourth soon after; and both grew rapidly, till, after two months, Mr. Lawrence removed them, and all the parts bounding them. They were, in every respect, exactly like those removed in the last operation, and near them lay another not discerned before the removal. Erysipelas following this operation proved fatal, and no post-mortem examination could be obtained.

Now in the first of these operations some portion of the mammary gland was left. It is possible that some cysts already existed in this portion, and were subsequently developed into the second tumour, which, therefore, might not deserve to be called a recurring tumour, although, indeed, it appeared under the scar of the former operation, and not in the place where gland was left. But, after the second operation, there is little probability that any gland remained; and we may, with little doubt, regard the third tumour as an instance of recurrence or repetition; *i. e.*, of reappearance of the disease in an entirely new growth.

Sir B. C. Brodie[*] has related a case of a single recurrence of a tumour very closely resembling that just now described; and I have received from Mr. Birkett an account of a much more remarkable case, occurring in the practice of Dr. Cooke, of Trinity Square. The patient is 45 years old. In 1847 six ounces of fluid were drawn from a large cyst in her breast. After this, the integuments of the breast sloughed, and a profuse discharge of sanious fluid took place. The disease was removed in July 1847. Part of it consisted of a solid mass weighing 3½ pounds, and composed of "fungoid masses, some hard and others soft." In December of the same year, it was necessary to remove a small tumour which had appeared in or near the seat of the former operation; and again, similar tumours were removed in March and October 1848. These three small tumours did not present cysts, but were composed of a soft solid substance. A longer interval now elapsed; but a fifth operation was performed, on the same part, in June 1850. The tumour removed this time was examined by Mr. Birkett, who found "in a stroma of fibre-tissue, cysts containing the yellow, tenacious, albuminous fluid peculiar to these growths, and intra-cystic fibrous growths, in which were the terminal follicles of an imperfectly-developed gland-tissue." The patient appears now well, and the cicatrix of the last operation is quite healthy.

The liability to recurrence which even this case presented is surpassed by one recorded by M. Lesauvages,[†] whose description of the tumours he removed accords so closely with what was observed in the foregoing cases, that I can have no doubt they were of the same nature. The patient was 63 years old. The first tumour of the breast, which was of great size, was removed in February 1832: a second appeared, and was removed before the healing of the first wound; a third in May; a fourth in September of the same year; a fifth sprang up, and was removed in February 1833; a sixth in May; in a seventh operation, in June of the same year, three tumours were removed; but from the same spot two more arose, and these grew rapidly, and the patient died.

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[*] In the Museum of St. Bartholomew's, Ser. 34, Nos. 19 and 20.

[*] Lectures on Pathology and Surgery, p. 145.

[†] Archives Gén. de Médecine. Fevrier 1844; p. 186.

Now, if, as I think there need be no doubt, all these cases were examples of the proliferous cystic disease of the breast, they prove such an inveterate tendency to recurrence in this disease, as is scarcely surpassed by any even of the malignant tumours. Unfortunately no examination of such a case has yet been made after death; so that it is not possible to say whether the more characteristic features of malignant disease existed, such as the concurrence of similar disease in internal organs. Mere repetition of growth, I need hardly say, does not justify us in calling a tumour malignant; especially in the instance of a tumour in which clusters of cysts are prone to grow together; for the repetition of growth may be due merely to the peculiarity of the cysts growing in succession, and not, as they usually do, together and commensurately.

3. I have said we may not justly regard these recurring cystic growths as examples of malignant disease; yet the fact had better be here inserted, that their mode of growth may be imitated by genuine cancerous diseases.

Cancerous growths may be found in cysts under at least two different circumstances,—namely, in cysts that of themselves appear innocent, and in cysts produced within cancers.

Of the former mode of growth we have examples sometimes in ovarian cysts. Well-marked cancerous growths, usually of the medullary or the alveolar form, may grow from their walls; and herein is the best—perhaps the only unexceptionable—instance of the transformation of an innocent into a malignant tumour.

The second mode of production of intra-cystic cancers is best shown in some examples of medullary tumours of the testicle. In these[*] we may see a repetition, so far as the outline plan is concerned, of the intra-cystic production of thyroid gland. The great mass of the medullary disease includes smaller masses, completely incapsuled with fibro-cellular tissue, and commonly presenting a lobed and laminated form, at once reminding us of the intra-cystic mammary glandular growths, and justifying the application to them of the principles of Dr. Hodgkin's theory of the growth of cancers.

In these medullary testicles the intra-cystic medullary growths have usually filled the cysts and coalesced with their walls. In rare cases one can discern how the growths spring up as spheroidal, or as pedunculated, branching, and grouped, processes from the interior of the cysts. This condition is peculiarly well shown in a case of cancer of the clitoris, in which the whole of that organ is occupied or concealed by a cancerous mass inclosing several distinctly walled cysts, which are half filled with small, soft, and lobed cancerous intra-cystic growths.[*]

A further consideration of this matter would be out of place in lectures on innocent tumours.

4. I proceed to the consideration of the cutaneous proliferous cysts,—*i. e.*, of cysts on whose inner walls a tissue grows having more or less the structure and the productive properties of the skin.

Instances of these in a perfect state are rare. In the large majority of cases the cutaneous structure, if it were ever present, has degenerated or disappeared; and we recognise the relations and import of the cysts only through their containing epidermal and sebaceous materials, of which the production is a peculiar attribute of the tissues of the skin.

Among the parts in which these skin-bearing cysts may be found are some that have no natural connection with the skin. Thus (*a*) they are frequent in the ovaries; one or more Graafian vesicles enlarge and grow, and then, apparently, produce on their inner surface a growth of skin, with its layer of cutis, subcutaneous fat, epidermis, and all the minute appended organs of the proper integument of the body; or (*b*) such cysts may form in the subcutaneous tissue. They are, indeed, rare in this tissue in man, except in cases of congenital growth; but in the little cysts that are found at or soon after birth, about the brow, or in or near the orbit, the inner surface is often perfectly cutaneous; and Lebert[*] has detected in such cysts all the minute structures and organs of the skin. Some similar specimens of cysts lined with skin are in the Museum of the College.[†] These were taken from the subcutaneous tissue of a cow and of an ox; and in some of them the inner surface of the cyst could hardly be distinguished from the outer hairy integument of the animal.

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[*] As in Mus. Coll. Surg., No. 2396.

[*] Museum of St. Bartholomew's, Ser. xxxii. 39. Rokitansky gives to cases of this kind the name of cysto-carcinoma, and draws a just parallel between them and the instances of cysto-sarcoma. (Pathol. Anat. i. p. 391.) Cysto-sarcoma he regards, nearly following Müller herein, as a combination of sarcoma with cyst-formation. The cases included by him and Müller (On Cancer, p. 170) under the name, cannot be all enclosed in the groups which I have brought near together. (1.) Some are cases in which simple cysts are found within solid tumours: these are named cysto-sarcoma simplex; and such as these will be mentioned or referred to as varieties of fatty, fibrous, fibro-plastic, and cartilaginous tumours, in all of which the formation of cysts may ensue. (2.) The cysto-sarcoma proliferum, if it be correctly described as constructed of cysts contained in a solid tumour, and *containing younger cysts* in their interior, I have never seen. The case to which Müller refers as exemplifying it, and which is figured by Sir A. Cooper (Illustrations, p. 41, pl. iii.) was, I believe, an instance of proliferous glandular cyst in the mammary gland. (3.) The cysto-sarcoma phyllodes is a proliferous glandular cyst of the breast, and is especially exemplified by the cases in which the intra-cystic growths are firm, lobed, pedunculated, and clustered, and in which many cysts are close-set in the breast. But in this disease there is, I think, no solid tumour in which the cysts are set: they appear to be themselves the primary disease, the solid growths within them being secondary formations; and if this be true, they cannot properly be grouped with the examples of Müller's cysto-sarcoma simplex.

Besides these, the common seats of cutaneous cysts, perhaps any part or organ may in rare instances present them; for the records of surgery and pathology would furnish abundant instances of aberrant cysts containing hair and fatty matter, such as we must class with these in which the cutaneous structure and products are more perfect. The most singular and frequent of these rarer examples are in the testicle,[‡] the lung,[§] the kidney,[||] or the bladder,[¶] and the skull or brain. Those in the brain are of chief interest. I found this specimen[**] many years ago in an elderly man. While he was in St. Bartholomew's Hospital with an ulcerated leg he suddenly died; and the only probable cause of death appeared to be a mass of granular fatty matter mixed with short stiff hairs, which lay in the tissue of the pia mater under the cerebellum.

A yet more remarkable case is in the Museum of St. George's Hospital, in Mr. Cæsar Hawkins's collection. It exhibits a mass of fatty matter, and a lock of dark hair 1½ or 2 inches long, attached to the inner surface of the dura mater at the torcular Herophili. This was found in a child two and a half years old, in whom it appeared to have been congenital.

Now it is perhaps only during the vigour of the formative forces in the fœtal or earliest extra-uterine periods of life, that cysts thus highly organized and productive are ever formed. The sebaceous, epidermal, or cuticular cysts that grow in later life are imperfect, impotent, imitations of these; yet clearly are the same disease, and are, therefore, most naturally classed with the proliferous cysts, needing only to be named according to their contents. We cannot tell, in any advanced case of such a cyst, whether the more complicate structures of the skin ever existed; if they did, they have degenerated before the cyst became of distinct size; yet the retained likeness is sometimes shown in the fact that, when such cysts are laid open to the air, they do not granulate, but assume for their internal surfaces the characters of the adjacent and now continuous skin.[*]

Of these sebaceous or epidermal cysts it is interesting to notice the frequent hereditary origin. Perhaps, in the majority of cases, the bearers of these have known one or more members of their family similarly endowed. They are certainly more commonly hereditary than are any forms of cancer.

I have already referred to the double mode of origin of the epidermal cysts. Sir Astley Cooper first observed that some among them could be emptied, by pressing their contents through a small aperture in the cutis over them, and hence concluded that they are all examples of hair-follicles distended with their secretions and overgrown: but probably this conclusion is true for only a minority of these cysts. They are, I think, comparatively few in which an aperture can be found;[†] the greater part are closed on all sides alike, and must be regarded as cysts new formed, resembling, except in situation, those which are found where, naturally, no hair-follicles exist.

The characters of these epidermal cysts may be extremely various, in regard not only to their walls, but to their contents. Their walls may be thin, delicate, and pliant; or laminated, thick, and hard, with tough fibrous tissue; or they may be calcified; and I believe a general rule may be connected with the differences in these, as in other cysts, namely, that the thin-walled are the most productive, grow most rapidly, and are the seats of most active change. It would seem as if all thickenings of cyst-walls, all deposits of calcareous and fatty matters, were indications of degeneration and loss of productive power.

Among the contents of these cysts we may observe extreme varieties. The chief alone need be referred to. And, 1st, we

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[*] Abhandlungen, p. 99, e. s. The structure is well shown in No. 158 in the College-Museum.

[†] Nos. 161, 163, &c.

[‡] See Goodsir, in Edinb. Monthly Journal, June 1845.

[§] Kölliker, in the Zeitschrift für wissensch. Zoologie, B. ii. p. 281.

[||] Mus. Coll. Surg., 1904.

[¶] Mus. Coll. Surg. 2626.

[**] Mus. St. Bartholomew's, Ser. vi. 56.

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[*] See Home, Hunter's Works, vol. iii. p. 635; and a remarkable case by Mr. Green, in the MEDICAL GAZETTE, vol. ii. p. 346.

[†] Mr. South especially notices this in his edition of Chelius's Surgery, vol. ii. p. 698.

find successive productions of epidermis, formed in layers on the inner walls of the cyst, and thence successively shed, and pushed inwards towards its centre. A section of such cysts (which were particularly described by Sir Everard Home from the Hunterian specimens) presents layers of white soft epidermis, like macerated epidermis of the heel or palm. The external layers are commonly quite regular; but the internal are more disorderly, as if broken up and mingled with less organised productions. 2dly. A peculiar appearance is given to contents like these, where, among the layers of epidermal scales, abundant crystals of cholestearine are mingled. They hence derive an appearance like that of the masses to which Müller* has given the name of cholesteatoma, or laminated fatty tumour; and, indeed, the few instances of well-marked examples of this disease which I have been able to examine, as well as Müller's own account, make me think that what he named cholesteatoma is only a combination of layers of epidermal scales with crystals of cholestearine.†

The appearance produced by such a combination is quite peculiar. It forms nodular masses of soft and brittle substance, like wax or spermaceti, the surfaces of which present a bright glistening, like that of mother-of-pearl, while their sections are finely laminated. It is a rare disease; the most frequent seats of well-marked specimens appearing to be in ovarian cysts, and in connection with the membranes of the brain. The characters are well shown in the contents of a small ovarian cyst in St. Bartholomew's Hospital; and in the tumour within the occipital part of the cranium, in Mr. Hawkins's Collection, to which I have already referred. Striking examples are figured by Cruveilhier;‡ but the want of microscopic examination leaves their constitution uncertain. 3dly. In the opposite extreme to these cysts, in which the cuticular product is most perfect, we find an innumerable variety of contents, of buff- and ochre-yellow, and brownish materials, that seem to consist mainly of degenerate cuticle mingled with sebaceous secretions. The microscope finds in them a confused mass of withered scales, of granular fatty matter, clustered and floating free, of cholestearine-crystals, and of earthy matter in free molecules, or enclosed within the cells or scales. And all these may be floating in liquid, or retained in some soft tenacious mass, or clustered in hard nodular and pointed masses, projecting like stalactites from the old cyst-walls.*

One more phase of this disease deserves especial notice—that in which the cyst ulcerates, and its contents protrude. An inflammation in or about the sac often appears the inducement to this change; and sometimes the inflammation itself can be traced to nothing but disturbance of the general health. The probability that it may thus arise makes the caution very valuable which Mr. Humphry† gives concerning the removal of all tumors. "It is always well (he says) to bear in mind that persons are most likely to consult us respecting these, or other growths of the like kind, when they are out of health, and consequently unfit to bear an operation: they do so because the tumour is then most productive of pain and annoyance."

A distressing instance of the truth of this occurred to myself three years ago. A strong, but very intemperate man, came to me as an out-patient, with an ulcerated sebaceous cyst, about three-quarters of an inch in diameter, just below and to the right of the umbilicus. He had observed a tumour here for 16 years; but he had scarcely thought of it till, during the last five weeks, it had grown quickly, and in the last fortnight had ulcerated. I saw no reason to be very cautious in such a case; so slit the tumour and removed it, as well as the thickening and adhesion of the parts around would allow. In the evening, having returned to his work and some intemperance, hæmorrhage ensued from a small cutaneous vessel, and before he reached the hospital he lost more than a pint of blood. I tied the artery, and applied solution of alum to the rest of the wound, for its whole surface was oozing blood, and he was admitted into the hospital. The next day he became very feverish, and he appeared as if he were going to have typhus, which was then prevalent. But from this state he partially recovered; and then abscesses formed in his groins, and discharged profusely. Nothing improved his health, and three months after the operation he died, apparently exhausted by the continual discharge from the abscesses, and with both external epigastric veins and parts of the femoral veins full of old clotted blood—the consequence of slow phlebitis.

Cases like this, or ending fatally much sooner than this did, with erysipelas or more acute phlebitis, have occurred t

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[*] On Cancer, p. 163: West's translation.

[†] Other writers have applied the name of cholesteatoma more vaguely.

[‡] Anatomie Pathol. liv. ii. p. 6.

[*] See Museum, College of Surgeons, 157 an 2297; and a most remarkable specimen in th Museum of Guy's Hospital, which was remove from an old man's thigh.

[†] Lectures on Surgery, p. 135, from the Provincial Medical and Surgical Journal.

many surgeons. They need no comment to make them instructive.

I believe the contents thus protruded from cutaneous cysts may become vascular. I have not seen this event, but it seemed certain in a case observed by Mr. Reid, of Canterbury. A woman, 80 years old, had numerous cysts in her scalp. They were like common sebaceous cysts, and three of her daughters had cysts like them. Two years and a half before her death, one of the cysts, which had not previously appeared different from the rest, inflamed. It was opened, and sebaceous matter was discharged from it. The opening did not heal, but ulcerated, and a small hard lump remained under the ulcer for a year, when, after erysipelas of the head, it began to grow, and rather quickly increased to a mass nearly five inches in diameter, which occasionally bled largely. The mass has the appearance of the firm contents of a cuticular and sebaceous cyst, and contained abundant epidermal cells;* so that there can be scarcely a doubt that it had its origin in the contents of such a cyst.

Concerning cysts containing teeth, a few words must suffice. They are of two kinds. Some occurring in the ovaries, and more rarely in other parts, bear, with one or more teeth, the products of skin, as hair, epidermis, &c.† These may be regarded as diseases of the same general group with the cutaneous proliferous cysts; and the great formative power which they manifest is consistent with their occurring only in embryo or fœtal life, and in the ovaries, in which, even independent of impregnation, one discovers so many signs of great power of development.

Other dentigerous cysts occur within the jaws. In the upper or lower jaw a cyst may be found, hollowed out in the substances of the bone, lined with a distinct-looking membrane, to some part of which a tooth is attached. I believe it will be found that these are all examples of tooth-capsules, from which the teeth, though perfectly formed, at least in their crowns, are not extruded, and which therefore remain, becoming filled with fluid, and growing larger. If this view be correct we should scarcely class such cysts with tumours: but more evidence is needed on the point. Such cases are not unfrequently described as instances of a tooth being found in the antrum; but I suspect it is only the general aspect of the cavity which has led to its being regarded as the antrum. I think there are as yet no cases in which dissection has proved the tooth to have had this position.

REMOVAL OF FOREIGN BODIES BY TRACHEOTOMY.

In two cases, the one aged one year, the other three and a half years, the operation was performed in the usual manner with entire relief of symptoms of impending suffocation, and yet the foreign bodies were not discharged or extracted through the opening made. In the case of the youngest child, a part of a grain of roasted coffee had been drawn into the windpipe with the inspired air, and immediately gave rise to the characteristic symptoms of a foreign body in the trachea. The paroxysms recurring more frequently, and becoming more alarming in their character, the operation was performed at the end of forty-two hours after the accident. The coffee not appearing at the opening made, a probe was cautiously passed down into the bronchi and up through the rima, but the foreign body was not discovered. Having observed the patient to swallow immediately after the opening was made, the mother was directed to examine the diapers, and thus next day was found the undigested piece of roasted coffee, which doubtless had been located above the opening, and was carried up into the pharynx and swallowed as soon as the spasm of the muscle of the larynx was overcome by the free admission of air below. In the other case, a piece of raw sweet potato had been taken into the windpipe by the child during violent inspiratory efforts when at play with other children. There was immediate dyspnœa, threatened suffocation, and livid countenance; these symptoms subsiding, the parents supposed that there had merely been an arrest of the body in the œsophagus. The paroxysm recurred, however; when they sent for their physician, J. Weaver, M. D., of York County, who requested that I should be sent for, as an operation, in his opinion, was the only means of relief. We found indubitable evidence of the foreign body in the *trachea*, and the low operation was performed in the usual manner. In this case I observed that a moment after the opening was made in the trachea, the child swallowed, and exclaimed "Now it is out!" All the symptoms of foreign body in the windpipe disappeared. The probe was, however, carefully introduced, as in the other case, and with the same results. Both cases had a rapid recovery, and did well.—*Amer. Jour. Med. Sci.*, Jan. 1851.

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* Museum of St. Bartholomew's Hospital, Series 35, No. 57.

† A very remarkable specimen is in the Museum of St. Bartholomew's Hospital. It is described by Dr. Gordon, in the Med.-Chir. Trans. vol. xv.

Original Communications.

INFANTILE REMITTENT FEVER,

WITH ESPECIAL REFERENCE TO ITS DIAGNOSIS FROM HYDROCEPHALUS.

By Charles Taylor, M.R.C.S.
Late Surgeon to the Royal South London Dispensary.

[Continued from page 978.]

Complications and Sequelæ.

Having considered the disease under the different forms in which it may occur, we will now turn to various affections which may either arise in the course of the disease or succeed upon it, they not being a part of the original affection, inasmuch as it very generally occurs without them.

A not unfrequent occurrence at the commencement of the disease is cynanche tonsillaris, or c. parotidœa. In Nov. 1848, the various forms of cynanche were prevalent, and in many instances remittent fever was developed subsequently; erythema is also occasionally met with at the onset. As before remarked, chronic cutaneous affections and strumous ophthalmia occur when the disease has existed a long time.* Dr. Bird also mentions a case of a cachectic child having purpura on its legs and arms.

More or less bronchitis is often present. Phthisis is now and then developed upon it.

Inflammation and ulceration of the intestinal mucous membranes and of Peyer's follicles is considered by some a not unfrequent concomitant; and even perforation of the intestine and peritonitis have occurred. Simple enlargement of the mesenteric glands, and also scrofulous disease (tabes mesenterica), is an occasional sequel, but the most important complication is that of irritation of the brain passing into hydrocephalus: all of these affections, however, will be better treated of in considering the diagnosis.

Diagnosis.—Before entering on the diagnosis between it and various other affections, let us first glance at the more distinctive characters of the disease itself,—it is a *fever* more or less of a *remittent form;* often accompanied by *gastro-intestinal* irritation and inflammation, the *paroxysms* of fever usually commencing in the *evening*, the *remission* in the morning. Tongue furred, with elongated and injected papillæ; condition of bowels abnormal; motions offensive, but presenting no regular appearance; attended also by a frequent picking of the skin in various parts. The numerous other symptoms are not such as to be considered diagnostic, nor, in fact, are the preceding, taken singly; but it is from the assemblage of the symptoms, and their order of concurrence, together with a careful examination of the history and concomitant circumstances, that we form our opinion, and thus endeavour to arrive at a correct diagnosis. In general, at the onset, the disease is sufficiently easy of diagnosis, or, at least, becomes so by the time it is fully developed; but as it may be mistaken for other disease, and more especially as the complications mentioned may occur, we should make use of our best efforts to detect them early, as their presence will affect the probable termination of any given case, and also its treatment.

Dr. Joy has particularly alluded to this:—"Amidst our efforts to establish a correct diagnosis in any particular disease, we must not forget that diseases are at all times, in the language of the older writers, convertible into each other; or that, to use the more moderate phrase, complications may arise in their course, and the secondary affection predominate over the original." When there is any difficulty in the diagnosis, in by far the greater number of instances it arises in the course of the disease, although, at the onset, pneumonia, acute hydrocephalus, and other acute inflammatory affections, may be confounded with it.

I. *Rheumatic Fever.*

The acute form may, at its onset, be confounded with rheumatic fever; the general pains in the limbs and trunk are at times so great, that it requires the lapse of a few days to determine.

II. *Lung Affection.*

1. The occurrence of bronchitis, or simple catarrh, is not an unfrequent complication. Dr. G. Bird considers it a complication of no importance: a

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* Guy's Hospital Reports.

careful examination of the chest, together with the other symptoms, will easily detect its existence. In the Children's ward at Guy's Hospital, in the early months of 1848, there were many cases of remittent fever; in the winter months many were complicated with bronchitis, and a dulness of one lung posteriorly existed, such as in some instances would have afforded the indication of lobar pneumonia: this state was, however, usually found to correspond to the side on which the patient lay, and is considered by Dr. Bird merely to arise from congestion. Some of the cases occurred during or after hooping-cough, when congestion of the lungs would more likely take place.

CASE XVI. *Acute Remittent Fever with Bronchitis.*

Miss C., æt. 6, 22d February, 1849, æt. 5 days. Complains of headache; face flushed; eyes injected; skin generally hot; has a constant hacking cough; tongue white, moist, not much furred; papillæ injected; appetite bad; pulse 160; towards night the heat of skin increases; respiration hurried; auscultation discovers nothing abnormal in the chest; bowels confined, but relieved by Inf. Sennæ.

25th.—This afternoon, at 4, she became very feverish, which lasted almost until the morning of the 26th. The cough more troublesome; mucous rales are heard in the left side of the chest; bowels confined.

The Soda Mixture with Ipecac. Wine; Cal gr. ii.; P. Scam. Co. gr. v. h. s. s.

27th.—Bowels freely moved by the powder; motions dark, scybalous; and this morning she appeard better: in the evening the accession of fever returned; pulse 120. Tongue covered with dark fur almost to tip; urine high coloured; has slight sore throat; right tonsil enlarged.

2d March.—Cough and bronchitic rales nearly gone, but still some feverish exacerbation. Tongue loaded with yellow creamy fur, red at tip and edges; papillæ elongated.

Quininæ gr. ¼, quater in die.

12th.—Tongue assuming healthy appearance; appetite returned; convalescent.

2. From the great heat of skin, and the cough that is frequently present, pneumonia may be suspected at the onset, or it may occur in the course of the disease. In the well-marked forms of pneumonia we shall have but little difficulty in our diagnosis, but in the latent and lobular forms, where the ordinary symptoms are not well marked, an error is likely to be made. As in the adult, so in the child, a case will sometimes be looked upon as one of fever, when perhaps in the course of a few days we are surprised to find it assume the character of pneumonia; frequently, however, it is not until after death that we detect our error. In any instance we must not trust to the ordinary diagnostic symptoms, but have recourse to a careful physical examination of the chest.

Dr. West alludes to this difficulty, and mentions the case of a boy, aged twenty months, who died the fourteenth day from the commencement of an illness which resembled remittent fever in many of its symptoms, but was associated from its onset with indications of pneumonia, and after death there was found lobar pneumonia of the upper and middle lobes of the right lung, terminating in abscess of the middle lobe.

3. As before mentioned, phthisis sometimes follows on the chronic form, especially in scrofulous children, also in that combined form of malarial remittent fever and gastric irritation which is apt to occur after measles. Sometimes tubercles being present in the lungs may be excited into an active state during the disease; at other times the prostration of the disease may give rise to such a state of health that the deposition of tubercles ensues, and phthisis may be looked upon as a result. Both these occurrences are not unfrequent, and the greatest care is necessary to prevent them. Dr. Locock draws particular attention to this fact; and a case is reported by Dr. G. Bird of the development of phthisis on remittent fever. A medical friend had a child suffering from remittent fever, becoming chronic, which he has since lost from phthisis. In my own practice I have met with phthisis and mesentric disease developed after chronic remittent fever: but it is unnecessary to multiply cases which must be familiar to all.

Dr. West remarks, "that general

tubercular disease, running an acute course, may now and then be mistaken for a short time for acute remittent fever." The history of the case, and a careful physical examination of the chest, will be our chief means of diagnosis between the two, or in detecting the commencement of phthisical disease during the progress of a case of chronic remittent fever. The physical signs of phthisis in the young subject I do not enter into in this essay; they are well described in Dr. West's work on the Diseases of Children.

III. *Bowel Affection.*

In the greater number of cases, bowel irritation is present during one or other part of their course, and occasionally proceeding to inflammation of some part of the mucous membrane of the canal: it is more liable to occur during the summer months, or in damp weather. It certainly must be considered as a complication, as many cases occur without it, and in others it occurs only after the disease has become protracted, and therefore cannot be regarded, according to the French, and some of our own authors, as constituting *the disease.*

When any serious mischief is indicated within the abdomen, it is characterized by pain, increased on pressure, generally about the right iliac region, the tongue becoming red and shiny at the apex and edges; the bowels becoming relaxed, and passing into a dysenteric state, with frequent and scanty dejections, almost made up of mucus streaked with blood, giving them a currant-jelly appearance, and having but little true fæcal matter in them

The sudden occurrence of pain of an acute character, with a state of collapse, will indicate the rare termination of this disease in perforation of an ulcer of the intestine, and subsequent peritonitis. Although in some localities the diarrhœa is very troublesome, and difficult to check, yet when accompanying remittent fever in this country, it seldom proceeds to such extreme symptoms, and Dr. G. Bird says, "in sixteen in-patients, and nearly seventy out-patients, there was scarcely an instance of important derangement of the gastro-intestinal mucous membrane; certainly none which could be regarded sufficient to play any part in the development of the disease."

Case XVII.—*Intestinal Fever, succeeded by perforation of the intestine—"Peritonitis from fæcal effusion."* See Post-mortem Examination Books, Guy's; reported by Dr. Hodgkin.

December 31, 1831.—E. F., æt. 11, a healthy-looking girl, admitted nine days for apparently simple fever, but preceded by costive bowels for three days; the febrile symptoms continuing *varying* in severity during the entire week, but without exciting alarm, though the alvine evacuation had become frequent and offensive.

8th day.—There were violent abdominal pains, said to have subsided during the night. In the morning the abdomen was tense and tender, and there appeared to have been an involuntary stool, which was followed by violent vomitings: the pulse became exceedingly feeble, and she sank.

Sectio cadaveris two days after.—A brown opaque watery fluid, manifestly fæcal, was found in the peritoneum; scanty fibrinous effusion: there was vascularity of peritoneum and bands of lymph; a single ulceration was found amidst a patch of glands, about six inches from the cæcum, vascular, and communicating with the peritoneum; aggregate and solitary glands were much developed and slightly vascular.

IV. *Mesenteric Disease.*

Scrofulous disease of the mesenteric glands is sometimes induced by the chronic form of remittent fever. Dr. Locock considers it a most common complication, caused by irritation which takes place in the course of this disease. In the acute and well-marked forms of fever in children there will be no chance of mistaking it for mesenteric disease; but in the chronic form there may be. After chronic fever of a gastric character has continued for some time in a child, and the original symptoms become less definite, and there is general pain in the abdomen complained of, together with the presence of a tumid and prominent condition, and an absence of dysenteric symptoms, and sweats, and emaciation, and other indications of hectic also exist, we may suspect scrofulous inflammation of the mesenteric glands being set up; and after a longer time the symptoms of mesenteric disease would become more manifest, and the original affection would be merged into the subsequent.

According to Dr. Locock, the diagnosis between the two diseases consists in the appetite being voracious in mesenteric disease; the motions peculiar, white, and chalky—rarely fœtid and slimy; the general permanent rapidity of the pulse, and hectic exacerbations, but no regular remitting paroxysms, and no *picking;* in griping pains about the navel, increased by deep pressure, with regular recurrence of deep pain in the abdomen for three or four hours; the frequent detection of large glands in the umbilical region by manual examination; and he quotes Maunsell and Evanson, that "in mesenteric disease we find wasting, but it is slow and regular, not variable and rapid, as in bowel complaint."

Dr. Coley draws a careful diagnosis between inflammation and enlargement of the glands of the mesentery and remittent fever; but his chief distinction seems to be in the circumstance of the fever of mesenteric disease being "hectic."

Rilliet and Barthez say of mesenteric disease, "the symptoms are by no means definite; for the functional disturbances to which it gives rise are common to it with many other affections: hence, until the glands have acquired so large a size as to be perceptible through the parietes of the abdomen, the diagnosis is attended with difficulty."

Dr. West considers tabes mesenterica a very rare disease, but carefully describes tubercular peritonitis, which is almost analogous to it. According to his account of tabes mesenterica, he considers there is no special symptom before the enlarged glands can be felt through the abdominal walls.

A reference to the statistics for the mortality of 1840, 1843, 1844, shows that in the metropolis, in the year 1840, the deaths registered from tabes mesenterica were very few; whilst in 1843 and 1844 they were very numerous, and those from gastro-enteritis proportionably decreased: thus pointing out most practically that this disease, which seldom exists without being combined with other diseases of a fatal character, is doubtful of diagnosis, and sometimes registered under one name, and sometimes under another.

In those cases where tubercular inflammation of the peritoneum is set up, there are more general and frequent pains, of a flying character, about the abdomen, and the child complains of "belly-ache," and draws the legs up to abdomen.

CASE XVIII.—*Mesenteric Disease after Remittent Fever, followed by Tubercular Peritonitis.*

L., æt. 5 years, male, beginning of April, 1846; residing in Lambeth, a low, damp situation, but is chiefly up stairs, and is well fed; a highly strumous constitution. A sister, about 20 years of age, died last autumn of phthisis; and another child died, some years since, of hydrocephalus, coming on after partial recovery from remittent fever.

This child has been ailing for some time, apparently, from the account of the mother, having suffered from chronic remittent fever. The abdomen has been increasing in size, and, for about the last three weeks, has complained of pain, crying out that he had got the "belly-ache." The bowels were sometimes relaxed, at other times confined, and the motions pale and of a clay colour, with scarcely any bile; the urine scanty; face thin and pale, indicating pain, and a flush on one cheek occasionally; the superficial veins of the abdomen well marked; has slight cough; no physical signs of chest disease; the abdomen is much enlarged and prominent, not painful on pressure; increased dulness in the right hypochondriac region, and a doubtful sense of fluctuation. The pulse varied from 100 to 120 and 130. ℞ Hyd. c. Cretâ, Pulv. Rhei, Sod. Sesquicarb. aa. gr. iv.; Pulv. Ipec. co. gr. iiss.; Fiat Pulv. iv.; j. bis die s. ℞ Liq. Potass. ʒss.; Pot. Iodidi, gr. vi.; Syr. Croci, ℥j.; Aquæ ad. ʒiss. M. 1-6th ter die.

This case I considered as one of mesenteric disease following upon chronic remittent fever. The child, although not having been under my care previously, was frequently seen by me, and I supposed peritonitis was arising, consequent upon the mesenteric disease.

The preceding plan of treatment had been persevered in for some time, with the occasional omission of the mercurial; but the child emaciating gradually more and more, the abdomen at the same time getting somewhat less in size.

The child took but little nourishment—viz., about half a pint of milk, and a little sago or arrowroot, in the course of the day.

21st.—The child was seen by Dr. Hughes, who, confirming my opinion of the actual condition of the child, objected to the use of iodine and mercury internally, for fear of producing diarrhœa, recommended Liq. Potassæ in large doses, with Dec. Cinchonæ. Bowels open twice during yesterday, and once in the night; motions more yellow in colour, loose; pain in the abdomen four or five times in the day, lasting about fifteen to twenty minutes. Has taken his nourishment better the last few days; sleeps tolerably well; becomes feverish towards night. ℞ Liq. Potass. ♏xiv.; Dec. Cinchon. co. ℥ss. ter die sumend. ℞ Hyd. o. Cretâ, gr. i.; Pulv. Ipec. co. gr. iss. o. n. s.; Ung. Iodin. Comp. o. n. abdom. infricandum.

25th.—Tendency to diarrhœa continuing, the Hyd. c. Cretâ omitted; takes his nourishment better, but, according to his mother's statement, gets daily thinner, the abdominal pain continuing much the same.

July.—Towards the end of this month the child's mother noticed a slight oozing from the umbilicus. Since the last report the child had not been under my care, but only occasionally seen by me.

18th August.—The oozing from the umbilicus has a fæcal smell, and I think there is no doubt as to its coming from some part of the intestinal canal: although the smell is fæcal, it is somewhat different from that of motion passed per anum.

In some of the discharge I observed a raspberry seed from a tart which the child had eaten. There is usually more discharge after taking nourishment, which he now takes freely. Sometimes, if drink is taken, and in the erect posture, it will come forth in a slight stream from the umbilicus. His bowels are open three, four, or five times a day; is only taking the Pulv. Ipec. Comp. in doses gr. ij. to v., as required. His countenance is emaciated greatly these last few weeks, and is indicative of great distress; he sits in the semi-erect posture in bed, his legs drawn up to the abdomen, which is very tender, and will not allow it to be examined.

28th.—During the last few days the discharge has almost ceased, the child continuing in the same condition, and with no perceptible change to his parents, except that last evening he would not eat his supper—a most unusual thing, as he had been hitherto voracious. The night was passed quietly, but without sleep, and about 9 A.M. he died, the pain in the abdomen having been more severe the last 36 hours.

Autopsy.—29th, 12 A.M., 23 hours after death—Weather hot.—Abdomen not much distended; an increased hardness around the umbilicus; decomposition advancing rapidly; the abdomen alone permitted to be examined.

By an incision from the ensiform cartilage to the pubis, not through the umbilicus, but allowing that to remain in an oval form, connected with subjacent structure.

The peritoneum covering the muscles was universally adherent to that of the intestines, and could only be separated by force and tearing away. There appeared a double false membrane—namely, one attached to the peritoneum lining the abdominal walls, and another to the peritoneal covering of the intestines. Tubercles of the size of a small pea were in a small number on the peritoneal surface of the intestines, with effusion of firm coagulable lymph binding the intestines together. The mesenteric glands were enlarged and tuberculated; on cutting them, they were seen softened in the centre.

The liver was much enlarged, having tubercles in its substance, and also in its covering, and was firmly adherent to the adjoining parts.

There was effusion of fetid pus gravitating towards the lumbar and pelvic regions, and the left side of the intestines had some yellowish matter on them, similar to the cheesy contents of the tubercles: it did not appear to have a fæcal smell.

By careful examination we could not discover any opening externally from the umbilicus to the anterior of the intestines; a probe only passed through the skin, and the intestines were so matted together that they tore on endeavouring to separate them. Most probably there was some minute opening in the intestine which we could not discover. There were some small ulcers of the mucous membrane of the intestine.

The kidneys were somewhat tuberculated, but had no tubercles in them.

[To be continued.]

ON

UNHEALTHY INFLAMMATIONS.

By M. Broke Gallwey,
Surgeon, Royal Regiment of Artillery, Devonport.

[Continued from p. 853.]

Erysipelatous Bronchitis—its co-existence with Erysipelas of Fauces and Larynx—Generally *regarded as a new inflammation when occurring in the course of Erysipelas of Skin, even by some of our best writers.* "*Erysipelas of Lungs*" *described by Hippocrates and Galen.* Erratic *nature of Erysipelatous Inflammation when attacking Bronchial Membrane, as well as the Bronchitis generally arising out of Exanthemata*—*Bronchitis never a healthy Inflammation. Diversity of opinion amongst our best writers as to proper Treatment of Bronchitis.*

Bronchitis.—In a former part of this essay I have taken some pains to make apparent that the circulation of an animal poison in the blood, whether introduced from without or derived from the products of mal-assimilation and imperfect depuration, had a direct tendency, almost without exception, to manifest itself by the skin or mucous membranes, and oftentimes by both,—such manifestation arising out of an effort, on the part of nature, to throw it out of the system by those channels. It is unnecessary here to go over this ground again with illustrations of the principle alluded to; but I may revert to the single example of the *exanthemata*, as forcible evidence of the truth in question. In almost all of these, the mucous membrane takes a visible and prominent part in the phenomena resulting from the play of the poison in the blood. In scarlatina, the mischief localizes itself (quoad the mucous membranes) in the fauces. In measles, the bronchial mucous membrane is its seat. In small-pox, the buccal mucous membrane, the conjunctiva, and that lining the upper part of the throat. In common continued fever, the poison takes a wider range of action over the inner tegumentary membrane, selecting, at one while, that which lines the small intestines, at another, that investing the air-tubes, &c. The influenza is an instance of the poison expending itself upon the mucous membrane alone; and, the cholera is another fearful illustration of the same.

Whether erysipelas be correctly included in the category of the exanthems or not, its dependence upon toxic agencies, *I*, of *course*, at this time of day, assume to be incontrovertible.

The direct extension of erysipelas of the face to the fauces by a visible and unbroken line of surface, has been shewn by the cases which I have adduced from the papers of Drs. Budd, Gull, and others. In some of these very examples the accompanying laryngeal symptoms afforded evidence, *at the same time*, of the extension of the erysipelas *to the larynx*. Here, then, we have demonstrative proof of the occasional occurrence of erysipelas in the *upper* part of the windpipe. But, we have still more:—In the record of Dr. Budd's fatal cases of erysipelatous laryngitis, the post-mortem examination disclosed the co-existence of extensive *bronchitis* at the same time in some of them. In Mr. Ryland's 4th case, "the trachea and bronchi were of vivid red; lungs much congested with dark blood;" and, in almost all the cases, "the trachea was found more or less reddened." Mr. Porter, as I have previously observed, contends, that erysipelas, when invading the throat, extends almost necessarily to the air tubes; whence, according to this writer, the almost invariably fatal issue of the disease. It would not be difficult to multiply examples of the same kind from a few writers who record the chest symptoms developed at such times as directly dependent upon erysipelas of the air tubes and vesicles. But, in by far the greater number of authors, its extension to the organs within the thorax and abdomen is only recognised as evidence of *new inflammations* arising in its course in the hidden organs of the body. Thus, in the article Erysipelas, in the Cyclopædia of Practical Medicine, we are informed that "various morbid appearances in the internal organs have been discovered in fatal cases of phlegmonous erysipelas. These organic inflammations, which were evidently the more immediate cause of death, have been often unaccompanied by symptoms by which their existence during life could be ascertained."[*] And, even one of the latest and most able writers in this country upon the "various species of inflammation," approaches the consideration of this question with reserve and indecision, as thus—"There is no inconsiderable ground for believing that the infection of erysipelas is capable of exciting internal inflammation, which probably may be of the same character, though in different tissues."[*] Andral, again, in his splendid clinical production[†], is everywhere chargeable with the same faulty views in his detail of the local complications of internal organs in the exanthemata.

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[*] Vol. ii. p. 107.

It is interesting to notice (and the reader will forgive me for the momentary digression) that "erysipelas of the lungs" was a recognized disease with the ancients, and is frequently to be met with in the writings of Hippocrates Thus, "*Ερυσιπελας δὲ ἐν τῷ πλεύμονι γίνεται, ὅταν ὑπερξηρανθῇ ὁ πλεύμων,*" &c. And again,—"*ὅταν ἐπὶ τοῦ πλεύμονος ἐπιγένηται ἐρυσίπελας, καί τοῦ πυρετοῦ ἔη συνεχὴς λῆψις.*"[‡] Alluding to a sufficiently fanciful connexion between a metastasis of the blood—"*του αἵματος μετάστασιν*"—and a too great heat of the respiratory organs. And, in another place, he details at some length the symptoms by which an erysipelas of the lungs may be known to exist[§]. The great commentator and admirer of the Father of Medicine, Galen, adopts the same views of the existence and importance of erysipelas in the lungs, and draws especial attention to the ominous import of an intercurrent transmutation of that disease, on critical days, from the pharynx and neck to the organs of respiration—"'*Εάν γάρ ἐν κρισίμοις ἡμέραις ἡ μετάστασις εἰς τον πνεύμονα γένηται, παλω δρομοῦντος ἔσω τοῦ ἐρυσίπελατος, οὐ διαφορουμένου κατὰ τὴν ἐχτός ἐπιφάνειαν. οὐ μόνον οὐκ ἀγαθόν ἐστι τὸ τοιοῦτον, ἀλλὰ καὶ μέγιστον—κακὸν,*"[||] &c. But to return to our own times.

There is no circumstance in pathology of the truth of which I am myself more persuaded than that the bronchitis supervening upon a primary attack of erysipelas of the skin, or setting up as the original disorder in an atmosphere impregnated with that poison, is *identical* in nature with the parent disease, and should be treated upon the same principles as influence us in our dealings with it on the external surface of the body; and, if this be true in relation to erysipelas, it must be equally so in the case of the pulmonary lesion which so often complicates the exanthemata in general, and which I believe to be the true history of all such cases. Within this category I hesitate not here to include the so-called typhus and typhoid fevers, together with the common continued fever of these isles. But, to confine ourselves to that with which we have more particularly to do at present—*erysipelatous* inflammation of the mucous membrane and sub-mucous areolar tissue investing the branches of the "respiratory tree."

One of the broadest distinguishing features between "common" or healthy, and unhealthy inflammation, in their dealings with the outside surface of the body, is equally marked when the inside surface, or mucous membrane, affords a stage for their operations. I have already, in these pages, frequently referred to it, and will now do so even more pointedly than before, since the distinction is of practical importance in the present place—I allude to the tendency of the one to occupy a limited surface and to localize itself there, as well as to carry out all its actions in the same; while, the other shall spread itself over a far wider extent, and possess itself more feebly and transiently of the field. It results from this circumstance, that the bronchitis arising out of the circulation of a poison in the blood, as the erysipelatous, engages a large surface of the bronchial membrane, but at the same time holds its ground by a tenure so weak that it will often disappear as suddenly almost as it invaded the part, or, shift its ground to a point hitherto free from its attack. This *erratic* character in the bronchial inflammation I have found so decided in a few instances, that where the absence of erysipelas on the surface could lend no suspicion of its specific character, I have, nevertheless, been strongly impressed with the fact of its origin in that poison. As far as I know to the contrary, the occasional erratic behaviour of this form of bronchitis has been unnoticed by any other writer. I have searched our standard French and English authorites for a confirmation of my own observations upon this point. Andral and Louis, Watson, Stokes, and Williams, are alike silent upon the subject. What I have observed is this—A person residing in a confined atmosphere, and whose habit of body, from insufficient food, privations, or other depressing agencies, is predisposed to take on an unhealthy morbid action when exposed to exciting causes, shall experience an accident, or neglect to change his clothes upon getting wet. An attack of bronchitis supervenes: to day, it shall be tolerably general as to both lungs—to-morrow, it shall have ceased in one lung, and be intense in the other—the next day, it shall have shifted its ground to the sound side, and left the other perfectly free and intact—again, and lastly, it may once more become universal, or disappear altogether. Now, I am satisfied, from at least *three* recent cases of which I could offer the clinical histories, that this is a correct account of what occasionally happens in bronchitis depending on toxic agencies. I am not unprepared for an objection, which will be opposed, in limine, to this picture, by those who doubt that it is drawn from nature; and that is, that I have confounded certain cases described by Andral and other writers, in which a portion of a lung becomes impervious suddenly from the impaction of inspissated mucus into a large bronchus, with imaginary ones of my own creation, in which the morbid action may really *seem* to disappear.[*] But, against this fallacy it is easy enough to guard by the aid of auscultation: I allude to cases wherein the respiratory murmur has returned in a few hours to a lung or portion of a lung, where loud sonorous and sibilant rhonchi alone were dominant before. In this test, I need scarcely say, we have a sure guarantee against deception. And I certainly claim the merit (if there be any) of being the first to draw attention to these phenomena. These facts I consider to be a weighty argument against the fiat of Mr. Porter,—to wit, that erysipelas once developing itself in bronchial membrane, in conjunction with the disease in larynx, is necessarily fatal, and consequently contraindicates a surgical operation.

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[*] James, loc. cit., p. 374.

[†] Clinique Médicale.

[‡] Gottlob Kühn's Edition, Lipsiæ, Vol. ii. p. 187.

[§] Ibid. Vol. ii. Lib. 2, "De Morbis," p. 270. The reader is apprised that there is a mistake in the index of Kühn's edition in this place. He is there referred to the *first* vol. for what I have cited, when it should be the *second*. It may save him some loss of time and patience (as it would have done myself) to know this.

[||] Hippocrat. Prognostic., et Galeni, in eum librum, Commentar. iii., Vol. 18, Pars ii., Ed. Gottlob Kühn.

The explanation I would offer of these cases is this,—that the morbid action of which the bronchial tubes are the seat in such instances as I have pointed out is rather one of erythema (the first stage of erysipelas, according to Mr. Lawrence, the erysipelas "simplex" of Burserius) of the mucous membrane, and, not extending to the subjacent areolar tissue, than of erysipelas strictly so called; being the analogue in this situation of what we constantly witness when the poison confines itself to the superficial dermis. We are not, therefore, to look for this peculiarity of action after the very onset of the form of bronchitis we have in hand, and certainly not at all after the secreting stage of the disease shall have set in; for, I have never met with it after the moist rales have been established, nor, from *priori* reasoning, should we expect it.

Whether bronchitis be *ever* a *healthy* form of inflammation I confess that I have my doubts—that is, whether it be idiopathic, and not consequent upon damaged blood or lesions elsewhere,—in other words, whether it be ever other than a secondary form of disease. This will, doubtless, seem in the eyes of many an heretical doctrine to maintain; but it is one, nevertheless, to which I have, for a long time, very decidedly inclined.

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[*] Dr. W. T. Gairdner has recently drawn attention to the "rapid supervention, and sometimes equally rapid evanescence of dulness on percussion, limited or diffused, in the midst of attacks of general bronchitis of greater or less intensity, and when the respiratory sounds are muffled or supplanted by large and small mucous râles in every part of the chest." But, this is a widely different state of things from that to which I myself desire to draw attention. It is not uninteresting, however, to notice, in connexion with this *recurrent dulness* to which Dr. Gairdner has drawn attention as an occasional feature of bronchitis, that "such an event comparatively seldom occurs in the acute catarrh of healthy adults; but, as a sequela of measles and hooping cough in children, it must be familiar to every one; and that Dr. G. has "seen it again and again in adults, in the bronchitis of fever,—in that which often terminates in Bright's disease, or disease of the heart,—and, still more frequently, in those obscure and treacherous chest affections which supervene in the last stage of exhaustion from hectic or malignant disease, and which are the accompaniments, rather than the active causes, of breaking up of the enfeebled frame." I quite agree with Dr. Gairdner in the remark that "the rules both of diagnosis and treatment must probably undergo some modifications, in order to be safely followed."—On the Pathological State of the Lung connected with Bronchitis; Monthly Journal of Medical Science, No. cxvii. Sep 1850. Pp. 234-5-6.

A healthy individual, under exposure to cold or other exciting cause of idiopathic disease, would fall under an attack of pleurisy or pneumonia—I am almost tempted to assert that he could not afford the materials for bronchitis. But, I throw out the doubt, as yet, with reserve, and as suggestive of further inquiry.

It is no slight confirmation of the *unhealthy* character of all inflammations setting up in the bronchial tubes, that the highest authorities in medicine are at issue with one another upon the *proper* modes of treatment for the same. Thus, says one,—"Blood-letting has not that decided power over inflammation of the mucous tissues which it possesses over the adhesive inflammation that takes place in the serous inflammations."[*] "With regard," on the other hand, observes another, "to the treatment of this disease" (bronchitis), "I shall not detain you five minutes; for the treatment is perfectly easy: you have only to bleed the patient well, and to follow it up by local bleeding."[†] "In the treatment of the intense acute bronchitis," writes a third, "whether attacking a person previously healthy, or supervening on other disease, or on the more chronic form, early general blood-letting, and, in tolerably young and strong persons, repeated blood-letting, is often essentially important."[‡]

While, on the subject of *mercury*, there is equally little agreement, "Let me take this opportunity of cautioning you against another mode of treatment, which, though not unfrequently employed in bronchitis, I am persuaded is opposed both by theory and practice,—I allude to the use of mercury given so as to produce ptyalism. The obvious effect of this remedy is to increase the fluid secretions, and induce a sort of general colliquative state. The bronchial lining participating in this influence becomes still further loaded with the secretion by which it was previously oppressed."[§] Thus speaketh one oracle in physic. Now let us listen to another.

"I am quite sure that in this disease you will find mercury of the greatest use. I have had many cases that have yielded the moment the mouth became sore. Or, if you choose, instead of making the mouth sore, you will derive advantage from the exhibition of tartar emetic in large doses, so as to keep the patient nauseated, and, from time to time, produce vomiting."[*]

Dr. Watson pins his faith on a combination of mercury with antimony in bronchitis.[†]

I, Mr. Gallwey, a very obscure individual, and no authority at all, take the liberty, notwithstanding, of throwing my hat into the literary ring among these several belligerents, and asserting that all three—blood-letting, mercury, and antimony—are not only worthless, but mischievous agents, in this disease. The ganglionic nervous system is already sufficiently depressed; and no healthy action can possibly go on in the vessels if its vitality be still further lowered.

I believe that I have little else to add in connexion with erysipelas of the bronchial mucous membrane, save to insist upon the application of the same principles of treatment to this as to the disease when confined to the exterior of the body. In the eyes of those who recognize no distinction in the several species of inflammation,—who regard the mucous membranes under this condition as fairly open to the same principles of treatment as it is the fashion to address to serous and parenchymatous structures when the seat of inflammation,—I shall meet with little sympathy or support when I raise my voice against depletion in bronchitis: and yet I venture to do so most unqualifiedly for all that,—convinced that the present interests and future safety of the subjects of such inflammation imperatively call upon the physician to stay his hand as relates to the removal of blood in diseased conditions of this membrane. I have long been in the habit of treating all forms of bronchitis with stimulants from the commencement, in conjunction with blisters to the thorax; the latter being the only compromise with depletion which, I think, can safely be consented to. But this last adjuvant is invaluable: and, this is the treatment which I regard as preeminently suitable to the bronchitis dependent upon the poison of erysipelas. It is due to my distinguished and respected friend Dr. Todd, to state, that I owe the valuable lesson I have learnt in relation to the safest and soundest principles of treatment in bronchitis entirely to him.

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[*] Watson's Lectures on Practice of Physic, vol. ii., p. 33.

[†] Elliotson's Practice of Physic, p. 681.

[‡] Outlines of Pathology and Practice of Medicine, by W. P. Alison, M.D.

[§] Lectures on the Morbid Anatomy of the Serous and Mucous Membranes, by Thomas Hodgkin, M.D.

[*] Elliotson, ut supra, article Bronchitis, p. 681. It is true that this writer has now deserted the field of legitimate medicine. But, when he wrote the above, he was an *oracle* amongst us. How are the mighty fallen!

[†] Lectures on Practice of Physic, vol. ii. p. 33.

The poison of erysipelas,—like the animal poisons in general, selecting the mucous membranes more particularly for their stage of action,—I shall forbear to speculate upon the occasional implication of the air-cells and pleura in the mischief it sets up. *Pneumonia* certainly is not an infrequent occurrence in some of the exanthemata which have run a fatal course, and may probably be occasionally a consequence of this; but, in such cases, it would, perhaps, be *secondary* only to the bronchial affection. In two of Dr. Budd's fatal cases, hepatization of the lungs was found at the autopsy. The pleura, I suspect, is more frequently involved than the other; and, associating this structure with what we know of the liability of another serous membrane in its vicinity to adopt the morbid action arising out of the play of the erysipelatous poison on the system, we are justified by analogy in suspecting pleuritis to be a not uncommon result of the same in those instances in which it is directed to the respiratory organs more particularly. In Dr. Budd's third case, both pleuræ and the pericardium disclosed effusions after death.

CASE OF

IMPERFORATE ANUS.

BY W. PRETTY, M.R.C.S., &c.

AN ordinary sized male child was born with an imperforate anus. Superficially examined, the anus appeared formed in the usual way and at the natural part. No suspicion was entertained of the existence of malformation till two whole days after birth. Castor oil, as is usually given to infants, was administered by the nurse, and was invariably returned, as likewise all food. The infant refused to take the breast; it cried occasionally, and slept a good deal. Urine was passed, but of course there was no discharge from the bowels.

Examined on the third day morning, it was found impossible to introduce a probe or bougie beyond the external tegumentary corrugations of the anus. There was no distension; nothing soft or yielding to the feel which would indicate the nearness of the bowel to the proper place for outlet. The infant's abdomen was tympanitic, and somewhat unequally distended, the fulness being decidedly greater at the upper than the lower part: this tympanitic state, I apprehend, was confined to the larger bowels alone. The child had been taken out of the bed asleep, and I did not observe that the examination was productive of any pain; indeed, it seemed scarcely roused by it. A comatose state was present, though before this time the nurse assured me the child was unusually sensitive, as moving an arm, or the position of the body being changed, would excite crying. After waiting three or more hours for the consent of the parents to perform an operation, which they were told would be very uncertain in its effects, though it would give the child a chance to live, I proceeded to use a trochar, both a small and large one. I found that they entered very easily to the depth of about half an inch, or a little more, when further advance was met by some firm unyielding structure which I could not penetrate, though I used almost more pressure than was justifiable with such instruments, where the sense of sight or that of touch affords very little assistance. I then introduced a small-sized silver catheter, and tried unavailingly to discover by it any soft part to which I might direct the trochar, or some other instrument. The case appeared to my mind so unpromising, and believing that ultimate success rarely attends operation under such circumstances, I desisted from all further attempts. Had I, however, used some suitable cutting instrument, the rectum would have been opened, as the case has turned out; but this could not, I apprehend, have been known before hand. I the less regret this (perhaps) omission, for to have established a canal sufficiently large for the passage of fæces through such firm textures, would have been almost impossible; besides, inflammation would most probably have ensued in the adjoining tissues, and thus have cut off the child's life. I do not know that it has ever been proposed to open the colon behind the peritoneum in the left lumbar region in a case of imperforate anus. Few surgeons, I apprehend, would recommend the performance of this operation in an infant, and but few parents would assent to it who had been informed of all its disagreeable and uncertain consequences. The symptoms which followed the operation were an increased comatose state, with occasional fits of crying, contractions of the flexors of the fingers, slow and uninterrupted breathing, and death. The child lived eighty-two hours from the time of its birth, and twenty-four hours after the unsuccessful operation.

Examination of the body sixteen hours after death.—The face slightly discoloured; the sides of the head, with the upper and back parts, of a blackish blue colour; also the neck, shoulders, arms, hands, and finger-nails; the flexors of the fingers firmly contracted; the abdomen very greatly distended, more equally so than at the time of operating, and tympanitic every where. In making an incision down the front of the abdomen, the knife very soon entered its cavity, and a forcible discharge of offensive gas continued for more than a minute. Exposing the intestines, they were found smeared over with meconium. A little bloody fluid, mixed with meconium, was found in the pelvis. The rectum was tensely distended with air, to the size of a large man's thumb; this distension reaching up and into the sigmoid flexure of the colon. Other parts of this latter intestine contained very little air, and but a very moderate quantity of meconium. The transverse arch of the colon was uncontracted, the parietes falling together: it appeared very wide, and had certainly been very greatly distended—in its ascending portion particularly so; and here, rather more than an inch from the caput coli, was discovered a round opening, of the size of a silver threepenny-piece, free from any surrounding inflammation,—a bursting of the intestine from excessive distension. The entire colon and rectum, with the urinary bladder, were removed. The trochar had been passed in a right direction, and had failed to pass through some very dense tissue, surrounding and firmly attached to the closed extremity of the rectum. Had a further advance of a quarter of an inch been effected, the rectum would have been entered. The posterior part of the bowel was injected, and some slight extravasation of blood between it and the sacrum occasioned by the use of the instruments. The ordinary products of inflammation, where the latter proves fatal, were not discernible any where. The ileo-cæcal valve was perfectly entire, admitting fluid into the cæcum, but not allowing any to return. Nearly all the meconium was found in the abdominal cavity; scarcely any in the rectum. The stomach and small intestines closely contracted, and apparently quite empty. All the meconium, before the rupture of the bowel occurred, must have been confined within the colon. How far it could there have undergone any change during life which would have given rise to the large extrication of gas which seems to have burst the intestine, I cannot pretend to say. J. Quekett, Esq., Sub-curator of the Royal College of Surgeons, has examined the edges of the opening under the microscope, and confirms the statement I have made of its being a bursting of the bowel. This is a very peculiar fact. Did it take place from excessive distension? I think so: though I must mention that the child was placed upon its abdomen on the nurse's knees whilst I was using the instrument, and the force I used obliged her to hold the child rather firmly; yet I have no reason to suppose that the rent took place at that time. It is just possible that it might have been so, and the child to have survived twenty-four hours, as it did, after the attempted operation. The immediate cause of death, I am disposed to think, was not the injuries inflicted by the use of instruments, or even the bursting of the intestine, but cerebral and pulmonary congestion, arising from pressure of gas in the greatly distended abdomen. The action of the diaphragm must have been very seriously interfered with. The livid colouration of the upper part of the body and upper extremities strengthens this opinion, as do, also, the coma and heavy breathing during the last hours of life. The thorax and head were not examined.

P.S. From casual conversation with two hospital surgeons, I hear from one that a bursting of an intestine is always the result, in all cases, of imperforate anus unrelieved by operation. From the other I hear the contrary.

The intestine is among the preparations in the museum of the Royal College of Surgeons. The rectum terminated in a cul-de-sac at the promontory of the sacrum.

Mornington Crescent,
May 1831.

MEDICAL GAZETTE.

FRIDAY, JUNE 20, 1851.

In a recent number we directed the attention of our readers to the question whether the River waters at present supplied to the metropolis had or had not such a chemical action on lead as to affect the health of the population, or to render the withdrawal of this metal for cisterns and lead-pipes a necessary precaution. The results of observation in three of the largest hospitals in London were then stated, with the conclusion that, out of many thousand of admissions yearly, whether as out-patients, as in-patients, or as residents, not one case of lead-colic—as a result of the use of the Thames, Lee, or New River water—could be adduced. It is, we think, clear, as a matter of plain reasoning, that this must settle a question upon which there has been recently bestowed, in medical and non-medical journals and pamphlets, a vast amount of useless discussion, with an utter disregard of well-established and indisputable facts. It is undoubtedly a misfortune when a scientific question falls into the hands of amateur chemists or pamphleteers, who will either jump at conclusions favourable to their own views, or seize upon and distort the facts of science to aid a favourite scheme. We have a good example of this in the conduct of the Board of Health and its abettors in reference to the question which we are now considering; for never did a scientific truth stand in greater danger of being lost sight of in irrelevant experiments, or of having its value obscured by prejudiced discussions.

Apparently as an argument against the use of Thames water, and in defiance of general hospital and medical experience in the metropolis for the last thirty years, the Board of Health have endeavoured in their Report to subvert the facts ascertained respecting the action of water on lead, and to make it appear that the inhabitants of London incur an equal or a greater danger of lead-poisoning under the present mode of supply, than if the Government resorted to the compulsory use of what they designate *pure* water from Farnham. They have succeeded in finding one chemist, a Mr. Spencer of Liverpool, who supports their views, although we cannot ascertain from the Report that this chemist has performed a single experiment on the question at issue, either with the Thames or Farnham water. The Report furnishes us with no cases of lead-colic as a result of this assumed noxious action; and no hospital physician was called before the Board to prove that any injurious consequences had ever resulted from the *intermittent* supply of the so-called hard river waters through lead. From the position held at St. Thomas's Hospital by Mr. Simon, the Sanitary Officer of the City of London, it might be supposed that, had any dangerous consequences really resulted from the present supply, they would have found a prominent position in his official report, especially as he is decidedly adverse to the use of the River waters, and favourable to a trial of the springs of Farnham. We quote the following passages from Mr. Simon's report. The impending inquiry before Parliament renders them at the present time of great interest:—

> "There is, however, one aspect of the subject which must not pass unconsidered. Water that is *free from earthy ingredients* requires a peculiar distributory apparatus. If conveyed in leaden pipes with access of air, or if stored in leaden cisterns, *it corrodes the metal of which they are composed, and is liable to derive from this source an impregnation very hazardous to life*. Under certain circumstances, especially under alterna-

would recommend the performance of this operation in an infant, and but few parents would assent to it who had been informed of all its disagreeable and uncertain consequences. The symptoms which followed the operation were an increased comatose state, with occasional fits of crying, contractions of the flexors of the fingers, slow and uninterrupted breathing, and death. The child lived eighty-two hours from the time of its birth, and twenty-four hours after the unsuccessful operation.

Examination of the body sixteen hours after death.—The face slightly discoloured; the sides of the head, with the upper and back parts, of a blackish blue colour; also the neck, shoulders, arms, hands, and finger-nails; the flexors of the fingers firmly contracted; the abdomen very greatly distended, more equally so than at the time of operating, and tympanitic every where. In making an incision down the front of the abdomen, the knife very soon entered its cavity, and a forcible discharge of offensive gas continued for more than a minute. Exposing the intestines, they were found smeared over with meconium. A little bloody fluid, mixed with meconium, was found in the pelvis. The rectum was tensely distended with air, to the size of a large man's thumb; this distension reaching up and into the sigmoid flexure of the colon. Other parts of this latter intestine contained very little air, and but a very moderate quantity of meconium. The transverse arch of the colon was uncontracted, the parietes falling together: it appeared very wide, and had certainly been very greatly distended—in its ascending portion particularly so; and here, rather more than an inch from the caput coli, was discovered a round opening, of the size of a silver threepenny-piece, free from any surrounding inflammation,—a bursting of the intestine from excessive distension. The entire colon and rectum, with the urinary bladder, were removed. The trochar had been passed in a right direction, and had failed to pass through some very dense tissue, surrounding and firmly attached to the closed extremity of the rectum. Had a further advance of a quarter of an inch been effected, the rectum would have been entered. The posterior part of the bowel was injected, and some slight extravasation of blood between it and the sacrum occasioned by the use of the instruments. The ordinary products of inflammation, where the latter proves fatal, were not discernible any where. The ileo-cæcal valve was perfectly entire, admitting fluid into the cæcum, but not allowing any to return. Nearly all the meconium was found in the abdominal cavity; scarcely any in the rectum. The stomach and small intestines closely contracted, and apparently quite empty. All the meconium, before the rupture of the bowel occurred, must have been confined within the colon. How far it could there have undergone any change during life which would have given rise to the large extrication of gas which seems to have burst the intestine, I cannot pretend to say. J. Quekett, Esq., Sub-curator of the Royal College of Surgeons, has examined the edges of the opening under the microscope, and confirms the statement I have made of its being a bursting of the bowel. This is a very peculiar fact. Did it take place from excessive distension? I think so: though I must mention that the child was placed upon its abdomen on the nurse's knees whilst I was using the instrument, and the force I used obliged her to hold the child rather firmly; yet I have no reason to suppose that the rent took place at that time. It is just possible that it might have been so, and the child to have survived twenty-four hours, as it did, after the attempted operation. The immediate cause of death, I am disposed to think, was not the injuries inflicted by the use of instruments, or even the bursting of the intestine, but cerebral and pulmonary congestion, arising from pressure of gas in the greatly distended abdomen. The action of the diaphragm must have been very seriously interfered with. The livid colouration of the upper part of the body and upper extremities strengthens this opinion, as do, also, the coma and heavy breathing during the last hours of life. The thorax and head were not examined.

P.S. From casual conversation with two hospital surgeons, I hear from one that a bursting of an intestine is always the result, in all cases, of imperforate anus unrelieved by operation. From the other I hear the contrary.

The intestine is among the preparations in the museum of the Royal College of Surgeons. The rectum terminated in a cul-de-sac at the promontory of the sacrum.

Mornington Crescent,
May 1851.

MEDICAL GAZETTE.

FRIDAY, JUNE 20, 1851.

In a recent number we directed the attention of our readers to the question whether the River waters at present supplied to the metropolis had or had not such a chemical action on lead as to affect the health of the population, or to render the withdrawal of this metal for cisterns and lead-pipes a necessary precaution. The results of observation in three of the largest hospitals in London were then stated, with the conclusion that; out of many thousand of admissions yearly, whether as out-patients, as in-patients, or as residents, not one case of lead-colic—as a result of the use of the Thames, Lee, or New River water—could be adduced. It is, we think, clear, as a matter of plain reasoning, that this must settle a question upon which there has been recently bestowed, in medical and non-medical journals and pamphlets, a vast amount of useless discussion, with an utter disregard of well-established and indisputable facts. It is undoubtedly a misfortune when a scientific question falls into the hands of amateur chemists or pamphleteers, who will either jump at conclusions favourable to their own views, or seize upon and distort the facts of science to aid a favourite scheme. We have a good example of this in the conduct of the Board of Health and its abettors in reference to the question which we are now considering; for never did a scientific truth stand in greater danger of being lost sight of in irrelevant experiments, or of having its value obscured by prejudiced discussions.

Apparently as an argument against the use of Thames water, and in defiance of general hospital and medical experience in the metropolis for the last thirty years, the Board of Health have endeavoured in their Report to subvert the facts ascertained respecting the action of water on lead, and to make it appear that the inhabitants of London incur an equal or a greater danger of lead-poisoning under the present mode of supply, than if the Government resorted to the compulsory use of what they designate *pure* water from Farnham. They have succeeded in finding one chemist, a Mr. Spencer of Liverpool, who supports their views, although we cannot ascertain from the Report that this chemist has performed a single experiment on the question at issue, either with the Thames or Farnham water. The Report furnishes us with no cases of lead-colic as a result of this assumed noxious action; and no hospital physician was called before the Board to prove that any injurious consequences had ever resulted from the *intermittent* supply of the so-called hard river waters through lead. From the position held at St. Thomas's Hospital by Mr. Simon, the Sanitary Officer of the City of London, it might be supposed that, had any dangerous consequences really resulted from the present supply, they would have found a prominent position in his official report, especially as he is decidedly adverse to the use of the River waters, and favourable to a trial of the springs of Farnham. We quote the following passages from Mr. Simon's report. The impending inquiry before Parliament renders them at the present time of great interest:—

"There is, however, one aspect of the subject which must not pass unconsidered. Water that is *free from earthy ingredients* requires a peculiar distributory apparatus. If conveyed in leaden pipes with access of air, or if stored in leaden cisterns, *it corrodes the metal of which they are composed, and is liable to derive from this source an impregnation very hazardous to life.* Under certain circumstances, especially under alternations of air and water (such as occur in the intermittent supply), or where organic impurities are held in solution or suspension, or probably where from *any cause uncombined carbonic acid* is present, even the hardest waters are not free from this risk. Speaking generally, however, it affects soft water chiefly, distilled water most of all; *and the Farnham water (in common with all pure water) is decidedly liable to this empoisonment if used with leaden apparatus of conduction and storage.*"

"Obviously, as regards one and all of the many proposals for supplying water destitute of hardening ingredients, any chemical process, or any change of source, which might lead to the distribution of such *pure water* through the metropolis, could not be considered as a single and separate reform, but must be undertaken conjointly with such alterations in the distributive arrangements as might be requisite for removing from the new plan *any chance, however slight or remote, of injuring the population by metallic poison.*"*

While we concur in these views generally, we regret that Mr. Simon has not been a little more explicit regarding what he calls the *hardest* waters and *intermittent* supplies not being free from risk. The question at issue regarding the metropolis does not refer to any sort of hard water or to any novel mode of supply. The hospital to which he is attached, as well as the neighbouring institution of Guy's, has been for many years supplied on the intermittent principle by the Thames water of the Southwark Company, taken from the South bank of the Thames opposite to Chelsea. Setting aside the disputed quality of the water for dietetic use, Mr Simon must within his experience either have met with cases in which lead-colic was caused by the use of this water, and if so, he has failed to record them; or he has not met with such cases, and under these circumstances the reference to the *risk* arising from hard waters and intermittent supplies has no practical foundation so far as the metropolis is concerned. Either the inmates of St. Thomas's Hospital have been for many years poisoned by lead, or they have not; and if not, the remarks regarding leaden apparatus of conduction and storage, intermittent supplies, &c., are altogether surplusage.

If Mr. Simon, the Health Officer of the City of London, and one of the medical staff of St. Thomas's Hospital, has not been able to produce a single case of the danger resulting from the alleged poisonous action of Thames water on lead, there is another gentleman, of no medical experience whatever, who has been more successful. This is the Hon. W. Napier, who, in a recently published pamphlet,* has given the following description of this solitary case of alleged poisoning by Thames water:—

"Much having been said about the action upon lead of some soft water at Claremont, I would point out that this water contains an excess of carbonic acid gas, and then proceed to relate a case of nearly fatal poisoning of a lady who drank much water from the lead cistern of her house in Essex Street, *supplied, I believe,* by the hard Thames water. I give the words of the medical gentleman who attended this lady, and whose skill saved her life.

"Mr. George Williams, surgeon, Hampstead, says—

"'The following are the facts of the case, to the best of my remembrance; but I will shortly furnish a statement corroborated by the patient herself:—

"'I remember Mrs. William Cox, who consulted me on the 28th of November, 1848, as to the nature of the sickness she was then suffering from. I found her in bed, with the hands dropped, legs and arms attenuated and perfectly useless, suffering from obstinate constipation and severe colic. On examining her mouth I saw the blue line on the margin of the gums, which is distinctive of poisoning by lead. She had been treated by medical men in London for rheumatism and other imaginary disorders, and only became worse when she removed to Hampstead, when I was consulted. I immediately pronounced her case to be poisoning by lead, and having prescribed accordingly, she recovered nearly perfectly, though very slowly. Her husband *attributed* the attack to the water from a lead cistern in their residence in Essex Street, where they had resided. Had Mrs. William Cox continued to drink this water she would have died shortly. I think I remember that Mr. Cox, now dead, stated he had himself suffered much from the same cause'" (p. 64-5).

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* Report on the Sanitary Condition of the City of London, 1849-50, pp. 69-70.

* Soft Spring Water from the Surrey Sands. By the Hon. W. Napier.

We invite our readers to set all this hearsay evidence of that which Mr. Napier "believes," and the lady's husband "attributed," &c., against their own experience on the matter. Was it poisoning by lead at all? If so, Essex Street, instead of a single instance, should have furnished a large crop of cases. The whole of the facts are, however, left in a very convenient state of obscurity; and if the symptoms were unquestionably due to lead-poisoning, a solitary case of this kind, in a population of upwards of two millions, would really prove nothing against the general immunity from such attacks enjoyed by the inhabitants of London.

It is a curious fact that, while Mr. Simon, Mr. Napier, and Mr. Spencer, are all in favour of the Board of Health scheme of substituting *soft* for *hard* water, there is no agreement in their views on the lead question. Thus the Hon. W. Napier, who appears to be as well versed in chemistry as he is in medicine, tells us in his first conclusion:—

> "1. I submit that the action of water upon lead is to a great extent due to the proportion of carbonic acid gas it may contain" (page 64).

Mr. Spencer, in his evidence, says:—

> "The free carbonic acid which is to be found in these artificial waters *does not contribute* to these results (*i. e.*, contamination by lead); for, should it combine with the oxide, the resulting carbonate is insoluble."[*]

Mr. Napier gives, as a second deduction:—

> "II. That the pure soft spring water of the Farnham and Hindhead district is well aërated by atmospheric air, *not by carbonic acid gas*, which gas merely gives a more sparkling appearance to water, but is not at all necessary for aëration."

When we consider the very small extent to which oxygen and nitrogen are dissolved by water, and the very large extent to which carbonic acid is taken up, we may well doubt the statement of the honourable amateur chemist, that water can be well aërated without the presence of carbonic acid.[†]

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[*] Report on Water Supply, Appendix iii. page 147. In another part of the Appendix, page 244, this gentleman says he has met with a water yielding 20 grains of carbonate of lime in the gallon, and yet at a summer temperature of 80° to 85° with *delicate tests* it gave *no indicdtion of free carbonic acid* What, then, held this large proportion of carbonate of lime dissolved? Chalk is not soluble in water unless carbonic acid is present, but the writer talks in these advanced days of chemistry of a *super*carbonate of lime. No compound of lime has ever yet been produced in which the lime was chemically combined with more than one equivalent of carbonic acid. A specimen of the *super*carbonate of lime should have been placed among the chemicals at the Great Exhibition.

[†] In his evidence before the Board (Appendix iii. p. 188), Dr. Hoffmann says that 1000 gallons of water will dissolve 1000 gallons of carbonic acid, but only 46 of oxygen and 25 of nitrogen.

Air (oxygen and nitrogen) can be kept over the water of the Thames, Lee, or New River, any length of time without sensibly diminishing in bulk; therefore, according to Mr. Napier, the London water, as at present supplied, has all that is necessary for aëration. It is well aërated by atmospheric air, and carbonic acid does *not* aërate, but gives only a *sparkling* appearance! What meaning does Mr. Napier attach to this term? If he will precipitate the carbonic acid in spring water by lime, filter and taste the water before and afterwards, he wil find that the fresh and aërated taste is in great part removed by the lime. The water is vapid, and yet the quantity of atmospheric air is undiminished. We have repeatedly found, on the application of the protoferrocyanate of iron, that water may be fully aërated with atmospheric air, and yet be very vapid to the taste. According to Mr. Napier, however, gases of which water will dissolve no more than 5 or 6 per cent. give a more marked aëration than a gas which is dissolved by water in the proportion of 100 per cent.! This is a new way of dealing with chemical facts. We advise Mr. Napier to place freshly-distilled water in bottles containing air and carbonic acid of equal capacity, to let them stand a short time, and then taste the water. He will find that carbonic acid gives not merely a *sparkling* appearance, but a well-marked aërated taste.

Mr. Napier's anxiety to get rid of the carbonic acid as an ingredient in water is fully accounted for by the fact that he believes this to be the main cause of water acquiring a poisonous impregnation by lead. In this, however, he is grossly mistaken; for clean lead, in contact with water and air free from carbonic acid, will yield a solution of oxide of lead, which is quite as dangerous as the carbonate when the water is used for drinking.* The mode in which imaginary facts may be dressed up to support a particular view, is well illustrated by Mr. Napier's attempt to explain away the well-known cases of lead-poisoning in the Royal family of France at Claremont. It is a remarkable fact, and one calculated to warn all advocates of Bagshot sand-water for the supply of the metropolis, of the very dangerous uncertainty connected with the use of very soft or pure water. The water which poisoned thirteen out of thirty-eight members of the Royal family of France at Claremont, as well as that which poisoned the Queen's hounds at Ascot, issues from these sands, and is remarkably soft and pure. On the Ascot case Mr. Napier is prudently silent. On the Claremont case he imprudently makes the statement that "this water contained an excess of carbonic acid gas," and refers the poisoning entirely to the presence of this gas! Dr. De Mussy, who, in reporting the facts, had no direct interest in getting up a soft water supply for London, says, in an accurate report now before us:—

"The spring that furnishes the palace of Claremont with water issues from a sand-bed at about two miles distance. It was chosen for its uncommon purity (the Hon. W. Napier's rule of selection) from among a great many others in its vicinity; and the water was, thirty years ago, conducted to the palace through leaden pipes. In the present day, some other metal would, perhaps, have been selected; for experience has taught us that pure water, and especially distilled water, acts rapidly on lead when it comes in contact with it. Thus Tronchin proved that the inhabitants of Amsterdam were indebted to the rain water kept in leaden cisterns for the colic they were so much subject to in his time. The *purity* of the Claremont water becomes a most dangerous property, and not only to it, but to other springs. Whilst I was combating its pernicious effects, I heard that there had been several similar cases in different parts of England: *they are not uncommon in the county of Surrey*, and especially in the neighbourhood of Claremont. Besides the case published by Dr. Thompson, I know of several others at Weybridge, Windsor, and in different other places."*

The water was analysed by the late Mr. Phillips, and contained only 5·7 grains of saline matter to the gallon,—a proportion insufficient to prevent the formation of hydrocarbonate of lead. There is not a word about the alleged "excess of carbonic acid," which appears to be an hypothesis on the part of Mr. Napier to aid his favourite scheme. In adopting it, we must admit the supposition that the pure water of Claremont and Ascot,—the two extremes of the Bagshot sand district,—contains an excess of carbonic acid, and may become poisoned; while the Farnham water does not contain any carbonic acid, and is therefore not liable to a poisonous impregnation. We presume that Mr. Napier will be able to demonstrate to the satisfaction of a Parliamentary committee that the many millions of gallons which he proposes to bring daily to London may be safely stored in lead, notwithstanding the Claremont and Ascot cases.

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* Handbook of Chemistry, by Leopold Gmelin, vol. v. page 114. It is true, Mr. Spencer says, a low oxide of lead is formed which "is not soluble in pure or soft water, yet hard water is capable of dissolving it" (Appendix iii. page 149). We prefer the authority of Gmelin and Christison to that of Spencer, so far as *soft* water is concerned; and, with respect to *hard* water, Mr. Spencer says, in another part of his letter (p. 146):—"I find by experiment *neither* the *sulphates* nor the silicates which are found in water *have the power of dissolving oxide of lead.*" The hardness of the London waters is in great part due to sulphate of lime: they therefore contain that salt which prevents them, according to Mr. Spencer, from dissolving oxide of lead; and yet, in his letter to the Board of Health (Appendix iii. page 149) this chemist has the courage to make the following inconsistent deduction from his experiments:—"It may therefore be said, as regards lead, that water is dangerous in the ratio of its *hardness!*" Mr. Spencer has not made any qualification regarding the *cause* of hardness. He has come to his conclusion from the examination of waters wholly different in chemical constitution from those supplied to London; and the Board of Health have allowed the public to draw the erroneous inference that the facts would be the same in the two cases. Water may be hard from the presence, quantity, and proportion, of so many different substances, all acting differently when in contact with lead, that the results cannot be comprised in any common conclusion. The waters of the sandstone of Liverpool abound in chloride of sodium, and are excessively hard: they no doubt act strongly on lead. The metropolitan waters are wholly different in chemical composition; and, although hard, do not act upon lead.

* Dr. De Mussy, in Dublin Quarterly Journal, No. xiv., May 1849, p. 418.

His third deduction embodies this proposition:—

"III. That the soft spring water of the Farnham and Hindhead gathering grounds may, if considered desirable for a short time, while the system of earthenware is being matured, be drunk from fully charged leaden pipes *without the slightest risk of injury* whatsoever from erosive action on the lead."

In reference to this assumption, Dr. Clark states, that, in his opinion, "it would be dangerous to allow (pure) water to pass through any considerable length of lead pipes, or to allow water to remain for a long time in short pipes;" and Mr. Simon says,—"The Farnham water is decidedly liable to this empoisonment if used with leaden apparatus of conduction and storage."

Mr. Napier's fourth deduction indicates a still greater amount of courage in dealing with scientific facts:—

"IV. That whatever may, in course of time, be the action of the soft spring-water of Farnham on leaden cisterns exposed to the air, the same erosion is produced by the hard waters of the rivers—Thames, Lea, &c.—in *one-fifth* of the time!"

As no authority is given for this statement, and it is plainly contrary to general experience, we decline accepting it. It is not a deduction from ascertained facts recorded in the pamphlet, but a bold assumption.

The remarks already made will show the crude and inconsistent character of the evidence published by the Board. The question is of the greatest interest at the present time, as an inquiry is about to be instituted respecting the propriety of entirely changing the mode of supply for the whole metropolis. Whatever contentions may exist among political parties and parochial vestries, we feel certain that the scientific evidence regarding the quality of the water will be fully and thoroughly sifted. The health of two millions of people will not be consigned to the speculative enthusiasm of an engineer who sets at defiance the facts of medicine and the laws of chemistry, or of chemists who employ in their experiments Carrara Water and Sir James Murray's Fluid Magnesia, and apply the results thence obtained to Thames water! The filth of the water now supplied will, we doubt not, be traced to its proper source—the present defective mode of storage, or the uncleanliness of the poorer classes. The animalcular question, as peculiarly characteristic of London water, and the poisoning by lead question, will also be fully elucidated.

Notwithstanding the contradictory nature of the evidence hitherto adduced, we have no doubt that the present inquiry will end beneficially to the public.

CORONERS' inquests, as conducted in many localities, have become what may be fairly designated a time-honoured nuisance, instead of a time-honoured protection to the liberty of the subject. A parish constable or beadle receives a certain sum per case for getting up an inquest, and the Coroner claims £1. 6*s*. 8*d*., exclusive of mileage, for each inquisition held. The folly of thus placing the initiation of coronatorial proceedings in the hands of an ignorant parochial constable, whose interest is directly concerned in the holding of as many inquests as possible, has at length made itself apparent; and while there is a bill now before the legislature for the payment of coroners by fixed salaries, the Magistrates of Middlesex have unanimously adopted certain resolutions, which will dispense with the services of beadles, and secure the public from unnecessary and officious intrusion. We subjoin an extract from the Magistrates' Report now before us:—

"That it is the opinion of this Court that no inquest ought to be held upon a dead body, except where the coroner has received information *affording reasonable ground for suspecting that the death has been occasioned, or at least for doubting whether it may not have been occasioned, by some criminal act or omission*. That it is the opinion of this Court that the objects of the resolution passed at the Quarter Sessions for January, 1850, whereby the coroners were 'recommended to adopt an uniform system for obtaining from the parish officers such preliminary information as might satisfy them that the circumstances required an inquest to be held,' have been, to a great extent, defeated by the coroners not exercising sufficient strictness in requiring the parish constables to answer the questions contained in the printed forms of application furnished to them by the coroners; and that this, and the last preceding resolution, be communicated to each of the coroners, together with a copy of this report. That it is the opinion of this Court that it is highly important to the interests of the public that the duty of summoning the witnesses and juries upon coroners' inquest, and of collecting evidence for the same, as well as filling up, and signing the printed forms of application, should be transferred (so far as the metropolitan police district extends) from the parish constables or beadles to the officers of the police force, and that this county is entitled to the services of that force for the above purposes. That in the meantime the scale of remuneration allowed to parish constables within this country, for the performance of the duties referred to, ought to be revised; and that it be referred to the Committee of Accounts and General Purposes to consider and report upon the fees which it may be proper to allow to such constables for their services at inquests while they are continued, having regard (in case the committee shall think proper) to the different circumstances of the several parishes or districts of the county."

These resolutions, if carried out, will be productive of great public benefit. Householders will not be so frequently summoned on juries for the purpose of inquiring into causes of death, which are so palpable as not even to require medical evidence for their elucidation; and, at the same time, cases really demanding inquiry will not be overlooked as they frequently are under the present vicious system.

Reviews.

Elements of Materia Medica: containing the Chemistry and Natural History of Drugs; their Effects, Doses, and Adulterations, with the Preparations of the British Pharmacopœias. By William Frazer, Licentiate of the King and Queen's College of Physicians, and the Royal College of Surgeons, Ireland, &c., &c. 8vo. pp. 466. London: Baillière. Dublin: Fannin. 1851.

The object of this work is to offer to the student a moderate-sized text-book, which should contain sufficient chemical and botanical information for the purpose of his examinations. The plan followed by the author is the natural history arrangement, which, to Dr. Frazer, appears to have greater claims for adoption than any of those yet proposed, as being based on physiological views. There may be some advantages in the arrangement thus adopted by the author, but they are not very obvious. The alphabetical order is perhaps the best artificial arrangement, as it offers facilities of reference in the absence of a determinate scientific classification.

The following succession of names with which the work commences may serve to exemplify the author's plan:—Oxygen, Hydrogen, Water, Nitrogen, Air, Nitric Acid, Nitro-muriatic Acid, Chlorine, Iodine, Bromine, Hydrochloric Acid, Carbon, Carbonic Acid, Boron, Phosphorus, Sulphur, &c. &c. &c.

Each article is treated under the several heads of its preparation, adulterations, tests, uses, antidotes, and doses. Each preparation, in like manner, receives consideration under those several points of view.

The second part of the work, which contains the substances used in medicine derived from the vegetable kingdom, is preceded by a botanical introduction, explanatory of the terms used in Botany. Each article and its preparations is treated in a manner similar to the preceding division. A short section, which concludes the second part, includes the animal materia medica, which may be briefly enumerated:—Hirudo, Cantharis, Coccus, Mel, Icthyocolla, Oleum Morrhuæ, Cetaceum, Moschus, and Castoreum.

The information throughout the work is clearly and concisely given; and the points of the greatest importance in the history of each article are not overlooked. A copious index compensates for the defects of the artificial arrangement. This work will be found of use to the student, to the practitioner, and to the dispenser.

It is to be regretted that its publication had not been delayed until after the appearance of the new Pharmacopœia of the London College. This deficiency, however, we trust will speedily be remedied by the requirement of a second edition.

The Annual Address delivered before the Members of the Hunterian Society of London, on February 19th, 1851. By JOHN C. W. LEVER, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, Guy's Hospital. Pamphlet, 8vo., pp. 23. 1851.

THE subject which Dr. Lever has selected for the burden of his Address is that of Puerperal Fever, and its identity with, or consanguinity to, Erysipelas. The author observes that this subject was, many years ago, brought before the society by Dr. Conquest, but that it is long since he has read Dr. Conquest's tract, and that he has refrained from so doing on the present occasion lest his opinions might seem to be tinctured. Dr. Lever also states that, although in his observations much will be found that coincides with the opinions of Dr. Fergusson, Mr. Nunneley, and Dr. Simpson, yet that most of his paper was written before the appearance of their publications. The remarks, therefore, of Dr. Lever are not distinguished by novelty or originality; they are, however, the author assures his readers, "based upon some years' experience, upon observations closely made, facts accurately recorded, dissections faithfully and diligently conducted." Facts thus accumulated, albeit not new, are contributions of no small value to medical science.

Dr. Lever, in some brief historical remarks, points out that puerperal fever consists in a change of the animal fluids, and that the local inflammations are but secondary thereon. The author refers to the experiments of Gaspard and Cruveilhier, to the investigations of John Hunter and Mr. Arnott, and several others, on the injection of pus and other fluids into the blood, as showing a condition of the blood similar to that which exists in puerperal fever.

The author describes four forms of puerperal fever, or four classes of cases of that disease, and gives an outline of the pathological changes discovered in their microscopic examinations. The points of resemblance and coincidence between puerperal fever and erysipelas are also dwelt upon by Dr. Lever. The modes of attack, the author remarks, and the nature of their constitutional symptoms, are precisely identical. The local external symptoms cannot be distinguished from erysipelas. Both diseases are certainly often concurrently epidemic.

Dr. Lever concludes by expressing very strongly his conviction of the contagiousness of puerperal fever, and enforces as emphatically as possible the obligations involved upon the medical attendant by this fact.

As already observed by us, Dr. Lever's essay, although presenting no claims to originality, gives a brief but distinct sketch of puerperal fever.

Smithfield and Newgate Markets. By the Hon. FREDERICK BYNG. Pamphlet, 8vo. pp. 26. London: Ridgway. 1851.

MR. BYNG has here undertaken the

advocacy of Mr. Giblett's suburban *versus* the Corporation urban place for the enlargement and improvements of Smithfield Market. It belongs only to our province to speak upon this question in its sanitary bearings; and, regarded in this point of view, we are satisfied, after careful investigation of the rival schemes, that the proposal of the Corporation of London meets, in a far greater degree, the requirements of the public health, than any other place that has been suggested for the removal of the market from a central to a suburban position. Our readers need only consult this production of the honourable member to arrive at the same conclusion.

On other parts of this question we do not perceive that the author has done more than point out what has been often admitted—viz., the existing evils of Smithfield as it is. These evils the Corporation propose to remedy by a gigantic scheme which at once removes them, and with them many other concomitant nuisances.

Reduction of Strangulated Hernia in Mass. By GEORGE C. BLACKMAN, M.D., Fellow of the Royal Medical and Chirurgical Society of London. Pamphlet, 8vo. pp. 62. New York.

THIS essay presents a collection of all the recorded cases of the reduction of strangulated hernia *in mass*, up to the time of its publication in the New York Journal of Medicine, from which it has been reprinted. The cases here mentioned are quoted for the most part from European writers. The author refers chiefly to the instances related by Mr. Luke in the Medico-Chirurgical Transactions, and in the LONDON MEDICAL GAZETTE. At the same time a bibliographical reference is given to the various authorities quoted.

The mechanism of strangulated hernia, its diagnosis, and treatment, are also discussed, with ample quotations from the writings of British and continental surgeons. Dr. Blackman has thus presented his readers with a very complete history of an operation the possibility of which has been doubted by some. The perusal, however, of Dr. Blackman's valuable and learned essay must be sufficient to put to flight all scepticism on the question of fact as to the reduction of strangulated hernia *in mass*.

Proceedings of Societies.

PATHOLOGICAL SOCIETY OF LONDON.

DR. LATHAM, PRESIDENT.

May 20, 1851.

DR. QUAIN presented

Lungs showing the arrest of Phthisis in the Third Stage of the Disease.

A female, in May 1848, when thirteen years of age, was admitted an out-patient at the Brompton Hospital. She was very delicate, had lost flesh, and was suffering from severe cough, shortness of breathing, &c. Her illness had commenced with influenza in the early part of the preceding winter; she had also suffered from an abscess in the right arm. She had been recommended cod-liver oil, but was unable to keep it on her stomach. There was no predisposition to phthisis, and she had not then had hæmoptysis. Since that time a younger sister has shown unequivocal evidence of phthisis, and an older sister has now become delicate. A note, taken shortly after her admission, states that "there is extensive consolidation at the apex of the left lung, and some deposition at the apex of the right," shown at the one side "by decided dulness, bronchial breathing, and bronchophony; and, at the other side, by a feeble inspiratory, and a prolonged louder expiratory murmur."

A mixture, in which a drachm dose of cod-liver oil was diffused by means of Liquor Potassæ in mucilage, and a syrup composed of Mucilage, Syrup of Squills, and a minute dose of Morphia, was prescribed. The oil mixture was taken without disturbing the stomach, and she kept her ground. Examined in August she is stated to have lost four pounds in weight, and crepitation is heard over the left apex; nothing additional at the right apex. Iodine counter-irritation was then applied. In the beginning of September she had profuse hæmoptysis, and subsequently a free puriform expectoration.

An examination, made in the course of this month, when she was able to attend the hospital, showed the existence of a large cavity, where the consolidation and softening had been previously observed. The dose of the oil was subsequently increased, first to a drachm and a half, and then to two drachms, with advantage; for, in the end of the following December, it is recorded that "she gains strength, and coughs but little." She did not attend during this winter, but received her medicine by her mother, and did well. In April 1849, she had an attack of influenza, from which she soon rallied.

In the following June the record is, that "she has not lost ground, though she has not gained in weight since her admission a year ago: there is loud pectoriloquy, cavernous breathing, and gurgling at the left apex, and loud expiratory murmur at the right."

At the end of July the report is, "she looks well, coughs only in the morning."

In August an examination showed "flattening of the chest over the apex of the left lung. The respiration there, though cavernous, is not loud. The pectoriloquy is very distinct. The respiration at the right apex is somewhat puerile." During the winter (1849-50) she continued the remedies.

In February her appetite had failed, and a mixture of Infusion of Gentian and Bicarbonate of Soda was ordered once a day. From this she derived so much benefit that it was continued three times daily, and she was able to take the simple aniseed oil in half-ounce doses.

The following June it is noticed that she has had an attack of nettle-rash, but is still gaining strength, grows tall, and coughs but little, and only in the morning.

This improvement continued; and it is noted that last October she came to the hospital, having been for some time in the country, looking extremely well. Her weight, which at one time had been as low as four stone two pounds, is now four stone nine pounds. She had scarcely any cough; her appetite is good. She is free from suffering of any kind. Examination of the chest shows remarkable flattening and contraction over the apex of the left lung. There is very evident dulness in this situation, and the mobility here is as 9 to 32 of the opposite side. The respiration is of a sharp whiffing character, with slight crepitus. At the opposite side the respiration is loudly puerile, and percussion shows the right lung extending across the sternum to the left side. At the summit of the left lung posteriorly the respiration is scarcely audible. The dulness here is more decided than in front. The heart is seen and felt to beat distinctly from between the second to the fourth left costal cartilages. The action of the heart in this situation had been a source of some annoyance to her. From this time (October) to the commencement of last March, this improvement continued. Her cough had nearly if not altogether disappeared. She continued the gentian with soda, the cod-liver oil, and the counter-irritant occasionally. At the beginning of March, during the prevalence of the influenza, she was attacked by the gastric, and not the pulmonary, complication of the disease. It commenced with bilious vomiting, followed by diarrhœa, great prostration and rapid collapse, from which she died on the fourth day.

The body was well proportioned, and showing a very fair amount of fat in the subcutaneous tissue. The right lung was seen to be very voluminous, and extending across nearly as far as the left margin of the sternum. There was no appearance of the left lung in front, but its place was occupied by the heart and pericardium drawn upwards and to the left side, and the walls of the apex of the chest falling inwards and downwards. The heart was healthy, and rather large for the size of the body. The left lung was found much diminished in size behind it. The lung was adherent more especially at the apex, which was covered posteriorly by a mass of solid fibrinous tissue, corresponding to the seat of dulness and feeble respiration previously mentioned. Very nearly the whole of what had been the upper lobe of this lung was occupied by the remains of a cavity irregularly divided into two by one of the bands so frequently seen in phthisical cavities. The entire cavity was about the size of a large walnut. It contained about half a drachm of a thin whey-like fluid, with which were mixed particles of whitish coagula. The walls were formed by condensed pulmonary tissue, varying in thickness from less than a line to a quarter of an inch, and in some points puckered and contracted. The air-cells and small bronchi were distinctly visible, under the microscope, in this tissue, which was separated from the contents of the cavity by a wall or membrane composed of firm filamentous tissue and granular cells. This membrane had much the appearance of a mucous membrane, but it was not examined sufficiently soon after death to be able to trace the presence of an epithelium. The cavity communicated with the left bronchus by an orifice which would admit a crow-quill, situated midway between the top and bottom of the cavity. There was a good deal of healthy respiratory tissue in the lower lobe of this lung; but there were scattered through its substance six or seven points of condensation, such as are hereafter described existing in the right lung. The right lung was large, and the air-cells partook of its character. In water it displaced a quantity which measured twenty-three ounces, whilst the left displaced but nine ounces. The apex was remarkably puckered; and on cutting through this puckering the tissue of the lung was found to be traversed by short fibrous bands, between which appeared points of softish pale-yellow tubercle. A little lower down in the centre of the upper lobe a mass of soft tubercle, about the size of a small hazel-nut, was found. It was enclosed in a cyst, and consisted almost entirely of fatty granules and cells containing similar particles. In the other lobes several consolidated points were found,—the largest smaller than last described, and none so fully formed. They appeared in some places to consist merely of condensed tissue; in two there was an appearance of yellow, firm tubercle; and in two, small calcareous particles. In neither lung was there the least appearance of recent tuberculous deposit. The other organs were healthy: the kidneys were large. There was no disease of the intestine beyond congestion, which in some parts was very distinct.

This case affords an additional illustration of the great extent to which the ravages of pulmonary phthisis may proceed, and its progress yet be stayed. Such cases were, happily, now met with more often since cod-liver had come into use: still Dr. Quain did not know of any case which afforded, by the evidence of post-mortem examination, so striking a result. This case was also interesting from its throwing light on the nature of the puckerings so constantly seen. Some observers were disposed to regard them as being independent of tuberculous deposit. In this case it was evident that they were due to the previous existence of this deposit, which, in fact, had been recognized there during life, and traced after death.

Mr. Canton exhibited the

Crystalline Lens of a Female,

seventy-three years of age, who, thirty years before her death, had received a blow on the eye, followed by wasting of that organ. The capsule of the lens was completely converted into calcareous material, and osseous patches had been formed in several places between the retina and choroid. The vitreous humour was of the consistence of jelly, and the optic nerve atrophied.

Also a specimen of

Fungus Hæmatodes of the Eye.

E. K. (a twin child, born at the seventh month), æt. three, was a patient at the Royal Westminster Ophthalmic Hospital, under Mr. Canton. She was a healthy-looking child, and had never suffered from illness, until eight months ago, when she had inflammation of the lungs, accompanied by great and continued pain in the left side of the head, near the vertex. She cried incessantly, and frequently screamed out as if she were in great agony. On being asked where the pain was, she would place her hand on her head. She did not have any fit. At the expiration of a fortnight she was considered to be well. Since that period she was seized about once a month with insensibility, complaining always of her head: at this time she often shrieked out and cried violently. After the illness spoken of, the sight was noticed to become dim in the left eye, and the father perceived the same appearance in it which is at present so distinct in the right one (a bright yellowish opacity). For the first time, about three months since, the right eye was seen to present the same character. She has now no sight in either eye. Within the last two months she has gained flesh: her spirits are very lively; appetite good; bowels generally very regular; sleeps well, except when she has the attacks of head-complaint, and then the rest is frequently disturbed by starting, crying, and screaming. The parents are below the middle age, and quite healthy.

On looking at the right eye, the pupil (even in the light) is seen to be dilated, and there is, about midway between the iris and the back of the retina, a slightly concave stratum of a substance having the characteeistic appearance of fungus before it has arrived at and pressed upon the lens. This yellowish metallic-looking material appears to be inclined obliquely from the nasal to the temporal side of the eye, and is evidently permeated on the surface at two points by blood-vessels, which present an arborescent arrangement, and extend nearly half way across its anterior part. The conjunctival vessels are not enlarged.

After death the body was examined. The left eye was much enlarged, and irregular in form, and the interior occupied by a fungoid mass. The optic nerve was in the same manner diseased as far back as the commissure. The right eye was normal in form, and not increased in size. The place of the vitreous body was supplied by the same form of disease as existed in the fellow organ. The crystalline lens was opaque. The optic nerve healthy.

Dr. Smith exhibited specimens of

Ossified Tendons of the Psoas and Iliacus Muscles of both sides,

found in the body of a man 74 years of age, who, previous to his death, had been bedridden for twelve months, and, prior to that, had for several years walked with the assistance of crutches. The tendons, at the part where they pass over the brim of the pelvis, are converted into bone. This ossific band passes, in the natural course of the tendons, over the front and inner side of the articulation, and, reaching the lesser trochanter, is attached to it through the medium of two osseous formations.

Before making a dried preparation of the specimen, the hip-joint was examined, and found to be in every respect normal. The fellow joint presented the same peculiarity as that described, but the ossified tendons were broader, and less firmly attached to the smaller trochanter. In addition, however, there existed a calcified state of the semi-membranosus and semi-tendinosus tendons of the muscles at their upper attachment. In one of these specimens the bone presents the appearance of being incompletely formed, and is perforated by two oval apertures.

The knee-joints were found to be greatly enlarged, and bent laterally, so that the one fitted, as it were, into a retiring angle formed by the other. These articulations were surrounded by irregular bony processes: the cartilages in many places were replaced by porcellaneous material, presenting fine examples of what has been called chronic rheumatic arthritis. It may be mentioned that the arteries of the lower limbs were extensively calcified.

Mr. TOYNBEE exhibited some specimens illustrative of

The Effects of Molluscous Tumours when developed in the External Auditory Meatus.

Although the existence of molluscum contagiosum in the external meatus has not been recognised by any former writers on diseases of the ear, it is far from being a rare disease, especially in elderly persons. It is found in all parts of the tube, but the situation where it is most common is the superior and posterior part, near to the attachment of the membrana tympani. The preparations laid before the Society show the effects of these molluscous tumours—1st, on the meatus; 2dly, on the tympanic cavity.

1st. The *meatus.*—When situated at the posterior part of the meatus, these tumours, if their progress be unckecked, cause absorption of the layer of bone separating the meatus from the mastoid cells, and they frequently extend into the mastoid cells, of which they occupy a considerable space. When a tumour is placed in the floor of the meatus near to the membrana tympani, the bone between the tube and the jugular vein is sometimes absorbed, and the vein is separated from the meatus by only a delicate membrane.

2d. The *tympanic cavity.*—It has already been stated that the molluscous tumours are frequently developed at the superior and posterior part of the meatus, near to the membrana tympani. As they increase in size they cause absorption of the superior part of the membrana tympani, and of the adjacent bone, thus producing a large opening into the tympanic cavity. Through this opening the tumour extends, and, increasing to the size of a small hazel nut, it not only occupies the greater part of the tympanum, but it sometimes extends upwards, destroys the layer of bone separating the tympanic cavity from that of the cerebrum, and comes into contact with the dura mater, which also partakes of the disease. In one case the tumour had caused disease in the lower wall of the tympanum, and the jugular vein was laid bare. The layer of bone between the carotid artery and tympanum was also carious.

When the tumours have increased to such a size as to cause irritation to the dermoid layer of the meatus, catarrhal inflammation ensues, attended by considerable pain: such cases have no doubt hitherto been comprehended under the general term otorrhœa.

Mr. OBRE exhibited a specimen of

Abscess of the Liver in a Child.

A girl, æt. 9, when under treatment by turpentine for tape-worm, from which she had suffered some months, was attacked with pneumonia of the right lung. On the 21st of March a fulness was observed in the right hypochondriac region, painful only on deep pressure. This fulness in a few days quite pushed out the false ribs on that side. The child had fallen down stairs some months previously on this side of the body, but was not supposed at the time to have received any severe injury. There was a general tumefaction in the region, daily increasing. The liver was felt much below its natural boundary. Febrile symptoms increased, and were accompanied with convulsive movements of the right side of the body. The pulse, small, varied from 90 to 140. The right lower limb became œdematous. The hepatic dulness shortly was perceptible as high as the fifth rib, accompanied with intercostal bulging.

Although no fluctuation could be felt, it became evident that the enlargement depended on a collection of matter in the liver. An exploring needle was passed into it, about the junction of the right hypochondriac and epigastric regions; having been introduced about three inches, pus followed its extraction. The opening was made sufficiently large to permit a free exit to the contents, which were thick and tinged with yellow; about a pint was evacuated. For a few days she slightly improved; but, on the third or fourth day, the wound closed, the old symptoms returned, with hectic and hepatic enlargement to a much greater extent, showing the organ to be disorganised to such a degree as to render a second evacuation of its contents useless. She died on April the 2d, not having shown during her illness any jaundice, or perceptible alteration in the urine.

The hepatic dulness extended to the nipple on the right side, passing round to the inferior angle of the scapula; the lower ribs were displaced outwards, increasing the right side three inches; the anterior border of the liver descended below the umbilicus; the convex border of the right lobe adhered to the diaphragm, false, and lower true ribs; a large cavity occupied the upper half of its right lobe, the upper boundary of which was formed by the diaphragm, to which it adhered, the upward bulging of which gave room for the accumulation of about a pint and a half of thick greenish-brown pus, with some clots having the appearance of scrofulous matter. The abscess passed into the left lobe, passing half way through its substance; broad bands passed across the walls of the cavity. The structure of the organ was little changed, except immediately surrounding the abscess, where it had a deep red hue, and condensed in structure. The gall-bladder was contracted and healthy. Excepting pneumonia of the right lung, with adhesion of its lower border to the diaphragm, there was no other morbid appearance. The intestines pale, with no appearance of ulceration.

Mr. Bristow exhibited a specimen of

Laceration of the Sigmoid Flexure of the Colon.

A man, æt. 46, was admitted into St. Thomas's Hospital at 6 P.M. He had been driving a loaded coal-waggon, and, when walking, he fell down, but did not know whether the wheel had passed over him. The accident occurred about half an hour before admission. He complained chiefly of a compound dislocation of the right great toe. This was reduced; and, during the subsequent dressing, he first complained of severe pain across the lower part of the abdomen. It was suspected that some one of the abdominal organs had been lacerated. The idea was, however, abandoned, when it was found that no collapse was present, and no external mark of violence on the abdomen. Moreover, the man stated that he was subject to severe attacks of abdominal pain. It was ascertained, by passing the catheter, that the bladder was uninjured.

At 9 P.M. symptoms of collapse had come on: he was pallid, the surface of his body cold, and the pulse barely perceptible, and he was suffering from intense abdominal pain. He died at 1 A.M. on the following morning.

Post-mortem.—On laying open the abdomen some fetid gas escaped. A quantity of fæcal matter, mixed with serum, was found in the pelvic cavity, and a thin layer was spread over the surface of the abdominal viscera. The peritoneal surface (both visceral and parietal) was congested; the congestion was not uniform throughout, but presented irregular patches of increased intensity. Two or three large bruises were seen in the walls of the lower part of the ileum. At the lower part of the sigmoid flexure, in the midst of a large and irregular intraparietal effusion of blood, there was a circular opening, about half an inch in diameter, through which the mucous membrane projected, producing a smooth everted rim. The remaining abdominal viscera were sound and healthy.

Also a specimen of

Phthisical Ulceration of Larynx and Trachea.

A man, aged 33, died of phthisis in St. Thomas's Hospital. The lungs presented the usual appearance of far advanced tubercular disease. The larynx and trachea were found greatly diseased; the mucous membrane of the larynx, as far down as the vocal chords, was much swollen and œdematous, but not otherwise affected. From this point to the lower edge of the cricoid it appeared irregularly ulcerated and eaten away, the ulcerating process having left intact processes and islets of the original membrane, which were so thickened and otherwise altered as to be barely recognised. On passing into the trachea, it was seen that, posteriorly from top to bottom, the mucous membrane was present, but congested and studded with numerous wart-like elevations. On the anterior and lateral surfaces, however, extending to an inch and a half below the cricoid, the mucous membrane was extensively ulcerated. Here the ulceration ceased anteriorly, but laterally it extended in the form of two narrow bands as far as the bifurcation. In the upper part the ulceration was deep and irregular; it had exposed and partly destroyed some of the tracheal rings, four or five of which hung loosely into the trachea, being attached only by one extremity. The lateral bands of ulceration had also exposed and partially eroded the tips of the remaining cartilages. A small circumscribed patch of ulceration existed at the point of divergence of the bronchi. The non-ulcerated mucous membrane covering the lower tracheal cartilages was congested, and had, to a great degree, lost its coherence, so that it did not admit of being removed in strips.

The symptoms of this patient during life were the ordinary symptoms of phthisis, with aphonia for some length of time prior to death.

ROYAL INSTITUTION.

Friday, June 13.

Professor Faraday on Schönbein's Ozone.

PROFESSOR FARADAY commenced by stating, that considerable mystery was attached to the subject which he proposed to bring before the members on the present occasion—namely, *Ozone.** This name had been given by Schönbein, of Basle, to a substance or condition of matter which manifested itself under very peculiar and widely different circumstances. Schönbein regarded it as an independent body, and a constituent of the atmosphere; but in his (Professor Faraday's) opinion, it was nothing more than an allotropic condition of oxygen. It was never manifested except where oxygen was present, and where, at the same time, water, in a liquid or vaporous condition, was found. No substance had ever been separated from the atmosphere where ozone existed; but its presence was manifested, not merely by the strong smell peculiar to it, but by certain well-marked chemical properties which the atmosphere containing it, possessed.

When electricity is produced from a powerful machine, and allowed to be discharged by a point, there is a feeling of a current or aura as of vapour escaping, and at the same time a remarkable odour. If, during the passage of the electricity, a piece of paper, moistened with a solution of iodide of potassium and starch, be brought near, the discharge causes the production of blue iodide of farina. The blue colour thus produced is the result of the oxidation of the potassium by the *ozone*, and the setting free of the iodine. This is one of the best tests for the presence of ozone. It was formerly supposed that nitric acid was produced by the discharge of the spark, and that the decomposition of the iodide was occasioned by this acid as a result of the union of oxygen with nitrogen in the air: but this theory will not account for the smell and other properties of this extraordinary agent.

Schönbein produces ozone in very large quantities by introducing into capacious bottles, with glass stoppers, pieces of cut and cleanly scraped phosphorus, with a small quantity of water, so that the phosphorus may be partly in and partly out of the liquid. A vapour slowly rises in a current. After ten or twelve minutes the ozone is produced, and may be procured in a mixture with oxygen and nitrogen by removing the phosphorus at a water-bath, and thoroughly washing the interior of the bottle with water, in which ozone is insoluble. This body is thus separated from the vapour of phosphorus and phosphorous acid. (This experiment was performed in three bottles, and several bottles of ozone previously prepared were now brought forward.) On introducing paper, wetted with starch and iodide of potassium, into one of the bottles, there was an immediate indication of the presence of this principle, by the production of a dark blue iodide of starch. Another remarkable property possessed by ozone was seen in its bleaching powers. Some ounces of a solution of sulphate of indigo were gradually poured into a bottle containing ozone, and shaken, when the colour was as completely destroyed as if chlorine or chloride of lime had been present. A very small quantity of ozone would thus entirely discharge the colour of a very large quantity of sulphate of indigo.

It has been already stated to be so little soluble in water, that a bottle containing it may be repeatedly rinsed with water without losing its ozonic contents. If, however, the stopper be removed, and it is exposed to air, it soon passes off. Ozone appears to be entirely destroyed by heat; or, at any rate, its production by electricity ceases when sparks are received from a red-hot metallic point. This fact was ingeniously illustrated by insulating a small galvanic battery, capable of raising at pleasure a platina ball to full redness: the battery was made part of the machine, and the platina ball the terminal point from which the discharges of electricity were received. The machine was set to work, and it was clearly and distinctly proved by Professor Faraday that the discharges from the red-hot platina ball produced neither the aura, the smell, nor the decomposing effects on iodide of potassium and starch, which were immediately manifested when the ball was allowed to cool, and the electric fluid was then passed through it.

The oxidizing properties of ozone are indicated upon metals which in practice it is rather difficult to convert to oxides—namely, silver. A piece of polished silver had been placed in a bottle of ozone for several hours, and had acquired a distinctly brown tarnish, not from sulphur, but from a process of ozonation, or, in other words, oxidation. Polished lead similarly treated was also oxidized. Ozone had always a tendency to bring metals and metallic oxides to their highest degree of oxidation. In this respect it was the most powerful oxidizer that was known. A tube containing several rings of metallic arsenic had been placed for a short time in a bottle of ozone. The metal had entirely disappeared, and had become transformed into arsenic acid. Paper wetted with a solution of proto-sulphate of manganese was introduced into a bottle of freshly prepared ozone, and in the course of a short time black spots appeared over the surface, proving that the manganese had passed to a higher degree of oxidation.

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* Probably derived from 'Οζώδης, "having a strong smell."

Nitrogen and sulphur are easily oxidized by it. Schönbein succeeded in procuring a quantity of nitre (of which a crystallized specimen was shown) by the agency of ozone in contact with nitrogen (of air) and potash. Sulphur was also converted to sulphuric acid. Paper stained with sulphuret of lead was immediately bleached when exposed to an ozonic atmosphere. Some curious experiments of Schönbein's were now shown, in which portraits and inscriptions were seen in white letters on a dark ground, as a result of placing stencilled metallic plates on paper which had been stained brown by sulphuret of lead. The uncovered spaces had been exposed to light and air, or *insolated*. The result was that in these spots the sulphuret of lead had entirely disappeared, having been converted to colourless sulphate of lead by the oxidizing action of ozone.

The alleged bleaching properties of solar light on coloured articles are thus probably due to the agency of ozone,—in other words, to a process of oxidation and alteration of the colour.*

Sulphuretted hydrogen, phosphuretted hydrogen, and all foul effluvia, are speedily oxidized and destroyed by ozone. It is, therefore, the great purifier of the air; and, owing to its continual exhaustion by oxidating processes, it is difficult to discover the presence of ozone in large and populous places, or in close and crowded dwellings. In the open air of the country, and on the sea, it constantly exists in a proportion which is probably subject to great variation, although ruled by laws which are at present unknown. Schönbein had contrived an *Ozonometer* for testing the amount contained in air. It is prepared by immersing paper in a solution made of one grain of iodide of potassium, ten grains of starch, and two hundred grains of water. The paper is dried, and, when intended for use, is exposed for some time to the air. There is no change until it is wetted with water, when, if ozone was present in air to which it had been exposed, a blue colour will appear, the intensity of which varies according to the quantity of ozone present and the length of exposure. The ozonometer consists of a series of papers thus coloured in different degrees, and bears some analogy to the cyanometer long since proposed by Humboldt.

Professor Faraday stated that, during the last autumn, when at Brighton, while walking close to the sea-shore, he exposed some strips of this prepared paper to the current of air coming over the sea, and, on subsequently wetting the paper, the presence of ozone was distinctly manifested by the blue colour produced. On another occasion he received on the same paper the current of air blowing over the town, but no trace of ozone could be detected in it. When he went, however, on the windward side of Brighton, so as to catch the air blowing over the downs before it reached the town, ozone was strongly manifested by the result. It was thus established that in populous places there is a constant consumption of this principle.

It had been shown that ozone was evolved with the ordinary electricity of the machine: it was now proved that the current of the battery equally leads to its production. Water was decomposed by a Grove's battery, and the oxygen and hydrogen evolved were conducted through a tube in which cotton soaked in potash had been placed to arrest any traces of acid. The gases evolved at the end of the tube decomposed the iodide of potassium on starch paper, and gave the usual indication of the presence of ozone.

Ozone is evolved in numerous chemical processes. If pure ether, mixed with water, be introduced into a wide-mouthed capacious bottle, and the vapour allowed to become diffused, it will be found that litmus paper introduced is not reddened, and that starch paper prepared with iodide of potassium is not rendered blue. If, however, a glass rod be made hot in the flame of a spirit-lamp, and then introduced into the vapour of the bottle, litmus paper held above the rod becomes strongly reddened, and the iodide of potassium paper intensely blue. In the oxidation of ether vapour at a low temperature, ozone is evolved.

Ether, in its ordinary state, has no bleaching properties; but the ether thus treated had acquired the power of discharging the colour from a large quantity of sulphate of indigo.

Essential oils are thickened by long exposure to light and air: they become ozonised and their properties changed. This was illustrated by reference to oil of turpentine. Freshly rectified and pure oil of turpentine was proved, by admixture with sulphate of indigo, to have no bleaching power. A small quantity of oil, which had been exposed to air and light (the air in a bottle half full), destroyed the colour in a few minutes, like chlorine.

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* This hypothesis should have its correctness tested by the exposure of colours known to fade, in hermetically sealed tubes. Oils, it is well known, are bleached in close bottles; but they may contain air, and wherever there is air there is ozone, a very small proportion of which possesses remarkable powers of bleaching.

We cannot doubt that ozone exerts an important influence on the atmosphere, and, therefore, on the health of animals and vegetables. Schönbein, who is rather sanguine in his views, considers, from the irritant properties of ozone, that an undue proportion of it in air may give rise to epidemic influenza, bronchitis, and other affections of the air-passages; and, in making experiments at Basle, he found that, concurrently with the prevalence of these disorders, ozone was very abundant in the air. On the other hand, it has been said that its deficiency in air will account for cholera or fevers, since the foul effluvia or miasmata giving rise to these diseases are not completely destroyed or removed by the oxidizing action of ozone. These, of course, are mere speculations insusceptible of proof; but, in the meantime, it must be conceded that the subject opens a new road to experiment and observation, and that very important results may be obtained by following out Schönbein's researches.

[It would be difficult to describe the intense interest which this lecture excited in a large and crowded auditory. The illustrative experiments were most ingeniously contrived, and were remarkable for their novelty. The conclusions of the lecturer were fully justified by the results.

We think Mr. Faraday has afforded the right explanation in assigning the properties of ozone to an allotropic condition of oxygen. This extraordinary element, which forms by weight one-fifth of the atmosphere, eight-ninths of water, and one-half of the solid crust of the earth, may, like other supposed elements, be capable of existing in two states (allotropic) so widely differing from each other as to possess nothing in common excepting the name. Phosphorus presents this allotropic condition: in its ordinary state it is colourless, luminous in air in the dark, forming a deliquescent acid, is soluble in bisulphuret of carbon, and melts and burns at a very low temperature, about 108°. If phosphorus be kept for a time at a temperature between 464° and 482°, its properties are entirely changed: it acquires a brownish-red colour on cooling; it requires a high temperature for combustion: so that, unlike common phosphorus, it may be safely handled and carried in the pocket: it does not deliquesce in moist air, and is quite insoluble in bisulphuret of carbon. Liebig states that, while common phosphorus is poisonous, the altered phosphorus has no action on dogs. At a low red heat the altered phosphorus is reconverted to and reacquires all the properties of ordinary phosphorus! There is, therefore, no apparent change of matter, but merely a change of state.

Thus Mr. Faraday considers that oxygen bears the same relation to ozone that ordinary does to altered phosphorus,—that they may, under certain conditions, pass and repass into each other: but what those conditions are which produce and *regulate* the conversion of oxygen into ozone in the atmosphere it is impossible to say. Chemical agency, electricity and magnetism, may be the constant sources of production. Decay, disease, and death, affecting alike animals and plants, may be the means by which ozone or allotropic oxygen is consumed; but what power is it that *regulates* the quantity produced, and so adjusts it that it shall conduce to health and life? This is a profound mystery. It is obvious from what is already known, that by an over-conversion of oxygen in the atmosphere into this allotropic condition, every living being would perish; and it is not improbable that the arterialization of blood may be due, not to oxygen in its ordinary, but in its allotropic state. It is commonly said that oxygen is absorbed as such, and the red corpuscles of blood are regarded as oxygen-carriers; but the researches of Schönbein open a new path of research for physiologists.

It has been a mystery whence those sulphates and nitrates are derived, which are frequently found in freshly collected rain water that has only washed the atmosphere. Ozone may be the agent by which the sulphur-gases and ammonia that are diffused in the atmosphere become oxidized and transformed to acids and salts. Acid springs, which are found in some parts of the world, and the great nitre beds of Ceylon, and on the coast of Peru, may owe their origin to this allotropic influence in past ages, and still working slowly at the present time. Although ozone does not appear to be dissolved by water, it is a question whether the oxygen in that liquid may not assume an ozonic condition, and thus account for the rapid conversion of nitrogen, sulphur, and phosphorus, or the compounds containing them. to nitrates, sulphates, and phosphates. Every chemist knows the rapidity with which sulphuretted hydrogen is decomposed in all kinds of water exposed to air:—sulphur is precipitated, or, if a base be present, acidified, and a salt formed. Oxygen, therefore, either in its ordinary or allotropic state, is the great purifier of air and water.

Oxygen in combination may be frequently in the ozonic state, or may become so during its evolution. Chromic acid not only bleaches, but sets free iodine from iodide of potassium. Peroxide of hydrogen and other hyperoxides have a similar action. Chlorine and bromine resemble ozone in their bleaching powers, and in their action on iodide of potassium. The bleaching is commonly referred to *nascent* oxygen, because dry chlorine has no such effect; but for the term nascent we may now, perhaps, be justified in substituting the word *allotropic*, and refer the effects to the ozonic condition of oxygen.

The oxidation of the metallic sulphurets by ozone throws a curious light on the probable cause of the destruction of photographic drawings. If any sulphuret of silver be left in the finished drawing, the drawing is slowly bleached, and the sulphuret converted into sulphate of silver. In drawings which have been framed the change is observed to commence on the external margin, and slowly spread to the centre. There are many other remarkable chemical changes which will now probably receive a more satisfactory explanation than has been hitherto assigned to them.—Ed. Gaz.]

ACADEMY OF MEDICINE, PARIS.

June 3, 1851.

Poisonous Properties of Nicotine.

M. Orfila read an essay, which had for its principal object to demonstrate:—1stly, That nicotine can be as certainly distinguished, as any poison derived from the animal kingdom; 2ndly, that this alkaloid can be detected in the intestinal canal and its presence affirmed, although only a few drops of it be present in the intestinal canal; 3rdly, that its presence can be detected after its absorption into the substance of the liver and other organs. 1st, Nicotine, discovered in 1809, by the illustrious Vauquelin, was studied in 1828 by MM. Posselt and Reimann, who found it in the various species of tobacco. It was classed by them with the two other volatile natural alkalies, *conicine* and *théobromine*. Composed of hydrogen, carbon, and nitrogen, it may be represented as one equivalent of ammonia, HN_3, and one of carburetted hydrogen, containing four equivalents of hydrogen and ten of carbon, $H_4\ C_{10}$. It is obtained by passing the vapour of tobacco through water acidulated by sulphuric acid; the sulphate thus obtained being decomposed by a strong fixed alkali, the nicotine is thus volatilized by moderate heat. This mode of preparation points out that by inhaling the fumes of tobacco, during smoking, a portion of nicotine is introduced into the system.

Pure anhydrous nicotine is a colourless oleaginous liquid, sp. gr. 1·048, becoming yellow by keeping, and on exposure to the atmosphere changing to a brown colour, and becoming thick in consistence, by the absorption of oxygen; its acrid odour has but slight resemblance to that of tobacco, its taste has a burning pungency; it volatilizes at 250° F., leaving a carbonaceous residue; its fumes are extremely irritating; it is inflammable, being readily ignited, burning with a white flame and yielding abundant charcoal; it reddens turmeric; it is soluble in water, in alcohol, oils, and also in ether, which speedily separates it from a watery solution.

Nicotine combines directly with acids, heat being disengaged. Concentrated pure sulphuric acid in the cold gives a red wine colour; when heated, the liquid assumes the appearance of wine lees, and at a boiling temperature blackens, with the disengagement of sulphurous acid. Hydrochloric acid imparts to it a violet tint. Nitric acid an orange tint. With stearic acid it forms a soap. Its simple salts are deliquescent, and not so easily crystallized as its double salts. Its aqueous solution is colourless, transparent, and strongly alkaline; it behaves like ammonia with many reagents: thus, it gives a white precipitate with the bichloride of mercury, acetate of lead, and chloride of tin; and with chloride of platinum a canary yellow; the salts of zinc are precipitated white, and are redissolved by the liquid in excess; the acetate of copper is thrown down blue, and is soluble in excess; with salts of manganese it has the same action as ammonia. The following tests distinguish its aqueous solution from that of ammonia: it precipitates the chloride of gold reddish yellow, and redissolves it by excess; it precipitates chloride of cobalt blue, passing into green, and does not redissolve the precipitate as ammonia does; solution of iodine precipitates it of a yellow colour, whereas ammonia discharges the colour.

If to the chemical characters by which nicotine is thus distinguished, its action on the animal economy be added, it will be impossible to confound it with any other substance. M. Orfila related several experiments which he had performed, and which are published in the fourth edition of his "*Toxicologie Générale.*" These experiments show that nicotine has a directly injurious influence upon the central organs of the nervous system.

2. M. Orfila then proceeded to discuss the *second proposition*, viz. that nicotine can be detected in the digestive canal, when

even only a few drops have been taken. The author pointed out that in the animals experimented upon, neither vomiting nor action on the bowels followed after its administration. The contents of the canal were acted upon by ether which dissolved out the nicotine. The following method was considered by M. Orfila to be the best for the detection of nicotine in the digestive canal. The substances to be analysed are to be macerated in very diluted sulphuric acid for about twelve hours, and then to be filtered; the result will be a solution of sulphate of nicotine with some organic matters. This is to be evaporated to dryness in a sand bath; then treated with distilled water, which will dissolve the sulphate and leave the organic matters. Soda or potash is to be added, the nicotine distilled over, and the product evaporated in a sand-bath to obtain the nicotine free from water. The tests before mentioned can then be applied.

3. In support of his third proposition, M. Orfila stated that the substance of the liver having been subjected to a similar examination as that to which the intestines were submitted, has been found to yield evidence of the presence of the poison.

M. Orfila concluded with some observations on a recent investigation of a case of poisoning by nicotine, at Mons, in Belgium.

Alkalinity of the Serum of the Blood.

M. Lecanu read a report on an essay by M. Cahen. The results of the author's investigations were to the effect that the quantity of alkali is smaller in the blood in inflammatory diseases than during health. The reporters remarked that this might be explained by certain morbid conditions preventing the admission of alkalies into the circulating fluids, and also by their modifying the processes of elimination.

Therapeutic Properties of Epica.

M. Delioux read an essay in which he stated that this substance possessed irritant properties when externally applied, and a sedative action when taken internally. The author further observed that it was of service in dysentery and pneumonia.

ACADEMY OF SCIENCES, PARIS.

June 2, 1851.

Dr. Marshall Hall transmitted a note in which he expounded his views with regard to the nature of epilepsy and its relation to trachelismus.

M. Carnot addressed a work on the influence of small-pox on the population of the 18th century. The author observed that small-pox has two modes of manifestation, an external and an internal. The mortality from these two forms has been twenty-four per cent. Under the name of convulsions and putrid fever, M. Carnot states that internal variola formed a sixth of the deaths during the eighteenth century. External variola he estimated at a twelfth. Formerly, of thirteen victims of small-pox, twelve were under, and one beyond the age of fifteen. Vaccination has only reversed these proportions. The mortality from small-pox remains the same, despite vaccination, according to M. Carnot, who regards convulsions, &c. as internal variola (!!).

Correspondence.

ON THE ACTION OF WATER UPON LEAD.

BY J. BIRKBECK NEVINS, M.D. LOND.

The effect of water upon lead has lately excited so much attention in reference to sanitary questions, and the suitableness of this metal for water pipes and cisterns, that whatever adds to our experience upon the subject is not without value.

Up to a very recent period our knowledge has amounted, practically speaking, to the following:—

Lead pipes have been used for years in many towns and in private houses innumerable for conveying spring water for internal consumption, and rain water for external purposes, without producing any injurious consequences; but occasionally accidents have happened which have called attention to what have then been considered exceptional cases, and the general impression amongst chemists and the public has been, that *hard* waters did not act injuriously upon lead, whilst distilled water invariably, and soft waters generally, acted upon it in a dangerous degree.

In making this statement, chemists have, however, been aware that it was not the distilled water which acted upon the lead, but the oxygen of the air which happened to be dissolved in the water; in proof of which, lead has been kept for years in vessels filled with freshly boiled distilled water, and then hermetically sealed, without undergoing the slightest change.

The oxygen of the air combines with the lead, forming oxide of lead, which is separated from the surface of the metal by the slightest disturbance in the water, and leaves a fresh surface to be acted upon by further oxygen. The oxide thus formed combines partially with carbonic acid also derived from the air, and forms carbonate of lead; and the white deposit, in the case of distilled water, is a variable mixture of oxide and carbonate of lead, in which, however, the proportion of carbonate is much smaller than that of oxide. In some experiments, which I made several years since, I found it to be 8·02 grains of carbonate, and 71·97 grains of oxide, or very nearly one part of carbonate to nine of oxide.

In proportion as water approaches distilled water in softness (purity?) it has generally been found to act upon lead. In the case, however, of *hard* water, the action has been different. *With comparatively few exceptions*, water owes its hardness to the presence of sulphate of lime in small quantities, and when this is dissolved in the water, oxide of lead is formed from the air as before, but instead of being converted into carbonate it is changed into sulphate by the sulphuric acid of the sulphate of lime, which adheres so firmly and uniformly to the surface of the lead as to form a protecting layer or varnish, which prevents the access of fresh oxygen. Nothing which has recently been discovered throws any discredit upon the experience of chemists thus far: but the general inference sometimes drawn from this, "that *hard* water protects lead, whilst soft water does not," is now disputed.

It is said that if all waters were hard from the presence of a *small* quantity of sulphate of lime, it might perhaps be true; but some are hard from the presence of soluble carbonate of lime or magnesia, and though a sulphate may protect the lead, a carbonate does not.

The late Prof. Daniell was consulted several (about six) years since on this subject, and he found from experiments published at the time, that soluble carbonate of lime did *not* protect lead, but, on the contrary, acted upon it with rapidity. About the same time also some cases of accidental poisoning arose from the employment of leaden cisterns for pickling tubs, in which the pickling brine was found to be strongly impregnated with chloride of lead, which being a partially soluble compound, did not adhere to the lead and form a protecting layer.

So far, then, our knowledge appeared to extend until the attention lately bestowed upon sanitary questions brought up this subject amongst others for examination. It was known that distilled water acted rapidly upon lead, causing a rapid promotion of a mixed oxide and carbonate. It was known that, in innumerable cases, an average quantity of sulphate of lime in common hard water did protect the lead, and it was inferred therefore that the presence of a soluble sulphate would be a sufficient protection in any case. It was known, but not so generally, that a soluble carbonate of lime or magnesia did not protect lead; but this was practically looked upon as an unimportant exception to the safety which hardness confers.

It was known that chloride of sodium in solution acted upon lead; but the fact was little dwelt upon.

It has, however, lately been stated,—

1st. That *hard* water does not protect lead so well as *soft* water.

2nd. That even if moderately hard water protects lead, very hard water, on the contrary, acts rapidly upon it.

3rd. That magnesian salts are peculiarly injurious to lead.

4th. That water, hard from the presence of carbonates and chlorides, acts with peculiar rapidity upon lead.

I have therefore tried the following experiments to test these statements. Sheet lead, and common lead piping, were exposed to the action of water containing the following solutions, with the results now to be described. In every case, the lead remained in the water for a week.

Description of Experiments.

In the 1st set of experiments, sheet and pipe lead were exposed to the action of a strong solution of sulphate of magnesia (gr. iv. and also grains x. to the ounce) in distilled water.

2nd set. The same solutions of sulphate of magnesia, combined with bicarbonate of soda (gr. iv. to the ounce).

3rd set. Carbonate of magnesia, partially redissolved by carbonic acid in distilled water.

4th set. Carbonate of lime, partially redissolved by carbonic acid gas in the same way.

5th set. Solution of common salt (gr. ½ to the ounce) in distilled water, and the same strength in the common spring water of Liverpool, which contains a moderate quantity of sulphate of lime.

6th set. Solutions of common salt, as above, only stronger (gr. ij. in the ounce).

7th set. Solutions of common salt (gr. ½ and gr. ij. in the ounce), in combination with gr. j. and gr. iv. of sulphate of magnesia, respectively; *i. e.* gr. ½ with gr. j., and gr. ij. with gr. iv.

8th set. The same experiment, only substituting chloride of calcium for chloride of sodium.

Object of the experiments.

It will be seen, on examining the above experiments, that nearly every point in dispute was brought under investigation; viz. the action of *hard* water, which does not contain sulphates, in experiments 3 and

4; the action of *strong* solutions of sulphates, in experiment 1; the modifying effect of the presence of excess of carbonic acid along with the sulphate, in experiment 2; the effect of chlorides of various strength, in distilled water, and in water containing small and large amounts of sulphates of both lime and magnesia, in experiments 5, 6, and 7; the difference in the effect of chlorides of equal strength, dependent upon difference in the base with which the chlorine is combined; and lastly, the difference in the effect produced upon sheet lead, and common pipe lead.

Results.

Different kinds of lead.—The difference between the effect upon the sheet and the pipe lead was so slight in every case, as scarcely to merit notice; if anything, the pipe lead was the least affected, as shown by the visible effect of sulphuretted hydrogen, for quantitative analysis was not resorted to in any instance. When, however, tea lead was operated upon, the difference was very great, which corresponds with results I obtained many years since, in which I found that, whilst the deposit from pure lead in a certain time weighed 5·5 grains, that from an equal surface of tea lead, placed under precisely similar circumstances, weighed 11·5 grains.

This result might almost be anticipated, as impurity in common pipe lead is more likely to be zinc than any other metal, and this would retard rather than hasten the action of the water upon the lead, by forming a galvanic arrangement; whilst the tin which is stated to be present in tea lead would hasten the action upon the lead, as it is less easily acted upon by chemical agents than lead itself. The difference in effect of the different strengths of the same solution was by no means strongly marked, the result being so nearly the same at the end of the week's trial, that it is unnecessary to make any distinction, in speaking of them, between the solution of 4 grains of sulphate of magnesia, and that of 10 grains; between the ½ grain and the 2 grains solution of chloride of calcium, &c.

Sulphates.—The solution of sulphate of magnesia produced a very decided effect; the bottom of the jar in which the experiment was made became covered with a thick white layer, and a coating, similar in appearance, covered the surface of the lead, but was removed without difficulty by gentle scraping with the nail: on transmitting sulphuretted hydrogen, the white sediment became a black powder, and the water assumed a brown hue. Thus it was clear that the strong solution of the sulphate did not form a protecting layer upon the lead, though repeated experiments, year by year, shown to my class of chemical students, has confirmed beyond dispute that the Liverpool water, which contains a small quantity of sulphate of lime, does protect it. It appears to me that the difference in the effect of a strong and a weak solution of a sulphate is owing to the rapidity with which the precipitate is formed by the first, which prevents its adhering firmly, while in the second it is formed so slowly that its adhesion is uniform and perfect.

Carbonates.—All the carbonates acted upon the lead so far as to cause the water to become decidedly coloured by the sulphuretted hydrogen; and a dark-coloured deposit was formed amongst the superfluous carbonate of lime and magnesia. The effect from the bicarbonate of soda was the most decided, and this, notwithstanding the presence of a small quantity of sulphate of lime in the common spring water, and a large quantity of sulphate of magnesia in the distilled water; whence it is evident that neither a large nor a small quantity of a sulphate acts as a protection in the presence of a soluble carbonate.

Chlorides.—In every case the water became brown on the transmission of the sulphuretted hydrogen, but the solution of chloride of calcium was by far the most affected, and a decided coating was formed upon the lead in it, which was not the case in any of the solutions of common salt, in which the lead retained its ordinary appearance, and no precipitate was found upon the bottom of the jars. The effect of the chlorides was, therefore, less marked than that of the other solutions employed.

CONCLUSIONS.—From the above experiments it is clear that hard waters do not protect lead simply from the fact of their being hard, but that the protection, when effected, is dependent not only upon the nature of the salt causing the hardness, but also upon the proportion present; for, whilst all experience proves that a small amount of a sulphate, at any rate of a sulphate of lime, does protect the lead, a large quantity of sulphate of magnesia acted considerably upon it.

It appears, also, to be proved that chlorides act upon lead, whether with or without the presence of sulphates, but that their action is not so great as that of soluble carbonates, which produce a rapidly injurious effect upon the metal. At the same time, these results do not practically affect the question of the safety of using lead for common water, so far as sulphates, at any rate, are concerned; inasmuch as the solutions here employed were, out of all proportion, stronger than any ordinary spring water, and the experience of years has proved that there are no bad consequences practically occasioned by the employment of this metal for water containing sulphates.

33, Clarence Street, Liverpool,
May 27, 1851.

CASE OF OBSTRUCTION OF THE BOWELS FROM MALFORMATION—DEATH.

SIR,—I have drawn up the following remarkable case, which came under my care, of obstructed bowels, from an impervious malformation and extreme narrowness of the cæcum, colon, and rectum, in an infant, for insertion in your valuable and widely circulated journal, if you should think it worthy of notice, or interesting and instructive to your readers.

I was called to attend a poor woman in labour on the 13th instant, belonging to a Lying-in Charity, who, after a few hours' natural and easy labour, was delivered of a live and apparently healthy well-developed and matured infant. The child never sucked, or did it take any thing but what was immediately rejected from the stomach; and no passage being observed from the bowels (though there was from the bladder), an hour or two after birth a teaspoonful of castor oil was administered; which, being rejected, was again repeated at short intervals, but with the like effect. In the evening of the day of birth (ten hours afterwards), I was sent for, and told of what had been given, and with what effect, the parents being apprehensive, in consequence, the child would not live—that there was a stoppage of the bowels. I thought it very unusual, and made an examination of the child, particularly the anus, to see whether it was impervious from adhesion or false membrane covering it; but which was not the case, it being open upon pressure at the verge, though unusually small. I did not think it necessary, or feel myself justified, in introducing any instrument or probe to ascertain whether an obstruction occurred farther up, fearing hæmorrhage or laceration; and if death occurred I might have the credit of killing the child by forcing an instrument up its bowels. I perceived the abdomen unusually distended, and the meconium had passed upwards. I ordered the castor oil to be repeated, and the child to be put to the breast. The following morning, when I called, the castor oil had continued to be rejected; still vomiting of meconium, and increasing distension of the abdomen. I had now little or no hope of success, believing there was some stricture or imperviousness of some part of the intestines, and as a last resource, and to do something to obtain a passage if possible, ordered two grains of calomel and the warm bath, which were alike unsuccessful. A few hours afterwards the child died, having lived forty hours; when I expressed a wish to open the body, to which the parents readily agreed, to ascertain the cause of death.

Upon a post-mortem examination of the abdomen, I found the upper part of the intestinal canal much distended, and greatly enlarged, containing a considerable quantity of meconium. The duodenum, jejunum, and upper portion of the ileum, were as large as in the adult, and in capacity had taken the dimensions of the large intestines. The lower third of the ileum gradually tapered, and at the commencement of the cæcum, or appendix cæci vermiformis, the canal became suddenly constricted and impervious to the anus, not admitting the passage even of a fine probe; and through its whole course had a very attenuated and thread-like appearance, much resembling the appendix cæci vermiformis itself. In all other respects the body appeared healthy and well-developed.

Believing such a case of malformation to be extremely rare, if ever before noticed, I thought it might be interesting and instructive to many of your readers, and shew the expediency of instituting post-mortem examinations in all cases, if possible, where the previous symptoms have been unusual, or the cause of death mysterious and obscure.

Your obedient servant,
FREDERICK HANHAM,
M.R.C.S.E. & L.S.A.

Bath, 5, Miles's Buildings,
May 31, 1851.

Medical Intelligence.

UNNECESSARY INQUESTS.

THE magistrates of the county of Middlesex are carrying out their plan of rigorously examining the accounts of coroners, with the view of preventing the holding of unnecessary inquests. At a recent meeting, the committee of accounts in their report recommended the payment of the coroners' accounts as follows:—Mr. Baker, in respect of 140 inquests held by him from the 28th of March to the 29th of May, £441. 16s. 3d., the fees on six inquests being disallowed on the ground that they had been held unnecessarily; Mr. Higgs, in respect of three inquests, £10. 16s. 6d.; Mr. Wakley, for 156 inquests, from the 24th of March to the 20th of May, £533. 13s. 7d., the fees on seven inquests being suspended, the cases requiring further consideration.

This report was received and adopted.

STATISTICS OF THE POPULATION OF NEW SOUTH WALES.

Within the last ten years, according to official documents, the population appears nearly to have doubled, the total in 1840 having been 129,463, while in 1849 it was 246,299, of which number 101,470 were females. The proportionate excess of males was much greater in 1840 than at present, but the rapid diminution of the disparity is not to be attributed so much to the greater evenness of the subsequent immigration as to the extended duration of female life compared with that of the other sex, and to the fact of the children born being more nearly balanced. Of 75,481 births since 1840, 38,310 were males and 37,171 were females, while of 25,821 deaths amongst the entire population, 15,978 were males, and only 9,843 were females. In deaths amongst adults the number of men each year *is nearly twice* that of *women*, owing doubtless in a great degree to habits of intemperance.

The number of lunatics in asylums on the 31st of December, 1849, was 315 male, chiefly convicts, and only 98 female patients.

THE WESTMINSTER OPHTHALMIC HOSPITAL.

According to the medical report for 1850, read at a recent meeting of the governors of this hospital, the number of patients admitted during the year 1850 to the benefits of the charity had been 166 in-patients, and 4788 out-patients, making the total number for the year 4954, being an increase of 84 patients over the preceding year. Of the principal operations 95 were cataract, 25 for the formation of an artificial pupil, 104 for squinting, and 112 other operations. Of the operations for cataract, and for the formation of an artificial pupil, two failed, the remainder obtaining some a reasonable and others an excellent sight. There have been likewise 112 minor operations, besides those for squinting, the number of which since April 1840, is 3791, nearly the whole having been entirely and permanently successful.

PHARMACEUTICAL BILL.

A bill for regulating the qualifications of pharmaceutical chemists, and for other purposes connected with the practice of pharmacy, has been introduced into the House of Commons by Mr. Jacob Bell, and was read a first time on Friday last.

EPIDEMIC OF SWEATING SICKNESS IN FRANCE.

The epidemic which we stated to have prevailed with such alarming fatality in and around Montpelier has rapidly declined, and it is expected that it will soon entirely disappear. X

THE ROYAL SOCIETY.

On Saturday last the Earl of Ross gave the last Soirée for the season to the Fellows of of the Society. The meeting was numerously attended. H.R.H. Prince Albert and many distinguished foreigners were present.

THE CENSUS OF 1851.

The total population of England, Wales, and Scotland, including the Channel Islands, amounted, on the 31st of March, 1851, to 20,919,531 persons; of whom 10,184,687 were male, and 10,734,844 were female. The population of London amounted to 2,363,141 persons; of whom 1,104,356 were males, and 1,258,785 were females. The most remarkable fact in the return is the great proportionate increase in the number of females. In 1841 there were 493,303 more females than males in Great Britain. In 1851 the excess is 550,157. In 1841 the excess of females in London was 124,367. In 1851 it is 154,429.

PRIVILEGES OF VETERINARY SURGEONS.

Lord Beaumont has laid on the table of the House of Lords a bill, which has just been printed, to exempt veterinary surgeons, and professors and teachers of veterinary colleges and schools, from serving on juries and in other offices. It seems that, under the letters patent granted to the college, veterinary surgeons are compelled to serve on juries, and to discharge county and parochial duties; and it is declared that such service is "highly detrimental to the interests of their profession, and very injurious to the proprietors of horses, cattle, and other domesticated animals." Therefore it is proposed that they, the professors of the veterinary art, should be exempted from all such duties by the passing of the present measure.

ROYAL COLLEGE OF SURGEONS.

Gentlemen admitted members on the 13th inst.:—C. Osborn—J. Stead—S. S. Lynch—J. L. Crawcour—H. Duncalfe—J. Hemming—T. J. Kelly—C. Cooper—J. Henderson—J. B. Freeland.

APOTHECARIES' HALL.

Names of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 12th June, 1851:—Richard Clark Perkin—James Stacey Hichens, Redruth, Cornwall.

OBITUARY.

On Friday, the 6th instant, at his residence, William Rogers, Esq. M.R.C.S. aged 54. He practised in Great Stanmore and the vicinity more than 30 years.

On the 13th inst. in the 73d year of his age, at the residence of his son, Hemingford Villas, Islington, Jonah Wilson, Esq. late of Huntingdon.

BOOKS & PERIODICALS RECEIVED FOR REVIEW

DURING THE LAST TWO WEEKS.

Clinical Observations on Diseases of the Genito-Urinary Organs. Part I.—Gonorrhœa and its Consequences. By Henry James Johnson.

Principles of Physiology, General and Comparative. By W. B. Carpenter, M.D. F.R.S. &c. 3d Edition.

Familiar Letters on Chemistry in its relations to Physiology. By Justus von Liebig. 2d Edition.

On Diseases of the Mucous Membrane of the Throat, and their Treatment by Topical Medication. By W. Wagstaff, M.A. M.D.

A Translation of the London Pharmacopœia; including also the new Dublin and Edinburgh Pharmacopœias, &c. By J. B. Nevins, M.D. Lond. M.R.C.S.

An Inquiry on the Subject of Vaccination. By Benjamin Ridge, M.D. M.R.C.S.E.

On Secondary Hæmorrhage after Parturition. By A. H. M'Clintock, M.D. M.R.C.S.I.

The Health of London during Six Months terminating March 25.

Pathology of the Human Eye. By John Dalrymple, F.R.S. F.R.C.S. Fasc. 7.

Portraits of Diseases of the Skin. By Erasmus Wilson, F.R.S. Fasc. 9.

Surgical Anatomy. By Joseph Maclise, F.R.C.S. Fasc. 8.

Nice et son Climat: avec des Notices sur le Littoral de la Mediterranée, etc. Par Edwin Lee, M.R.C.S.

Sunning-Hill Wells. The Chalybeate Spring, &c. By Henry Holmes, M.D.

A Few Remarks on the Use of Impure Gold for Dental Purposes. By Wm. Imrie, Surgeon-Dentist.

Comptes Rendus. Nos. 19 à 21, 12—26 Mai 1851.

Casper's Wochenschrift für die gesammte Heilkunde. Nos. 17 to 20, 26 April to 17 May, 1851.

AMERICAN PUBLICATIONS.

Report of the Pennsylvania Hospital for the Insane for the Year 1850. By T. S. Kirkbride, M.D. U.S.

The American Journal of the Medical Sciences. April 1851.

The New York Register of Medicine and Pharmacy. By C. D. Griswold, M.D. No. 4 (Vol. 2).

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 14.

BIRTHS.		DEATHS.	
Males....	659	Males....	517
Females..	633	Females..	414
	1292		931

CAUSES OF DEATH.

ALL CAUSES	931
SPECIFIED CAUSES	921
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*....	196
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	33
2. Brain, Spinal Marrow, Nerves, and Senses	105
4. Heart and Bloodvessels..........	32
5. Lungs and organs of Respiration	139
6. Stomach, Liver, &c.	58
7. Diseases of the Kidneys, &c.	13
8. Childbirth, Diseases of Uterus, &c.	7
9. Rheumatism, Diseases of Bones, Joints, &c.	9
10. Skin...........................	0
11. Premature Birth................	0
12. Old Age	35
13. Sudden Deaths..................	8
14. Violence, Privation, Cold, &c....	41

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox..........	19	Convulsions........	33
Measles............	33	Bronchitis	51
Scarlatina	24	Pneumonia.........	66
Hooping-cough	40	Phthisis	127
Diarrhœa...........	13	Lungs	8
Cholera............	1	Teething	12
Typhus.............	35	Stomach	4
Dropsy	15	Liver..............	9
Hydrocephalus	29	Childbirth	3
Apoplexy	29	Uterus	3
Paralysis	17		

REMARKS.—The total number of deaths was 78 *above* the average mortality of the 24th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer	29·73
" " " Thermometer[a]	55·9
Self-registering do.[b] .... Max. 80°	Min. 42°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·77.— Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 3° *below* the mean of the month.

NOTICES TO CORRESPONDENTS.

Mr. Kemp.—We do not publish the letter because it would only lead to further controversy, and be attended with no good to either party.

The concluding lecture of Dr. Badeley's Course, and Dr. Radford's paper, are postponed until next week.

The commencement of Dr. Chevers's contributions is reserved for the new volume.

We have to acknowledge the receipt of valuable communications from Dr Edward Wells, Dr. Ogston, Mr. B. W. Richardson, and Mr. W. F. Barlow. The whole of these will be inserted as early as our arrangements will permit.

"Rogo."—Although nothing is yet definitively settled, we apprehend that Members of the Colleges will be recognised as General Practitioners under the new law, and will not be subject to prosecution for acting in a medical capacity.

Mr. W. Craig.—A private communication will be sent at an early opportunity, in reference to our correspondent's inquiry.

Mr. W. Parker.—We have so many papers waiting for insertion, that we cannot find room for the correspondence.

Lectures.

THE LUMLEIAN LECTURES FOR 1851.

ON THE RECIPROCAL AGENCIES OF MIND AND MATTER.

Delivered at the Royal College of Physicians,

By J. C. Badeley, M.D., Cantab.
F.R.C.P., Inspecting Physician to the Lunatic Asylums of Essex, &c.

Lecture III.

Statistics of Insanity—Marriage—Necessity of Early Treatment—Mortality—Danger of Depletion—Pathology—Medical Treatment—Dr. Conolly—Dr. Monro—Healthy Condition of the Insane—Advantages of kindness and confidence—Illustration—Suicide—causes of—Hereditary predisposition — Prevention — Idiocy—Speech of Lord Carlisle.—Conclusion.

In taking into consideration the leading characteristics and powerful agency of that gift of God which constitutes the supremacy of man over the rest of animated nature, *The Human Mind*, I began by attempting to give a sketch (how brief soever and imperfect it might be) of its physiology. I traced a feeble outline of the different leading theories of its mode and power of acting on our corporeal organization; illustrating the abstruse consideration by examples of its effects—its agency in generating diseases—and its connection with various mental passions and emotions. I subsequently took a cursory view of the phenomena of its morbid condition, viz. *Insanity;* and I now, in conclusion, propose to resume the subject of what must undoubtedly be considered the most awful visitation which "flesh is heir to." It is much to be lamented that mental alienation, in one form or another, is and must be perpetually on the increase, for, endowed as it is with an hereditary property more inherent than any other malady, it travels (though "haud passibus æquis") with the increase of population; and I believe that I am not guilty of exaggeration when I state that there are now no less than 80,000 persons in Great Britain and Ireland who are thus afflicted. Dr. Burrows, to whom I have frequently alluded, and whose authority is quoted by all modern writers on the subject, calculated that in six-sevenths of the whole of the patients under his charge the cause was traceable to hereditary disposition. Much of this is attributable to intermarriage, especially in the highest circle of society, where corresponding rank is a principal incentive to that state; and it is distressing to observe how the young of both sexes will rush to the embrace of their wealthy and aristocratic admirers, if a coronet but form the crest, though insanity and scrofula may be the supporters to their arms! Should the families of *both* sides be liable to insanity, the probability of this sad heir-loom is, *à fortiori*, doubled, and the manifestation of the disease will probably be doubled also in the offspring of persons

> "———— mox daturos
> Progeniem vitiosiorem."

Yet, though Insanity is ever on the increase, for reasons just stated, it is equally true and satisfactory to feel that, since it has become the subject of deeper study and closer observation, our knowledge of the treatment and general management of its victims is much enlightened and improved. An erroneous idea once prevailed that it was commonly incurable; and the melancholy subjects of this infirmity were shut up in dungeons and dark cells, and subjected to coercion and cruelties on which it is painful to reflect. "Cribb'd, cabin'd, and confined," no effort was made to restore their intellect, or contribute to their comfort. They passed their gloomy days and wretched nights, year after year, in straw and darkness, till death in mercy came to liberate them from a state of utter hopelessness and unremitting suffering. No commissioners visited them — no friends were permitted to approach them—and the melancholy all that awaited the poor wretches who were consigned to such infamous Bastilles was

> "Lasciate ogni speranza, voi ch' entrate!"

Thanks, however, to the enlarged philanthrophy and enlightened aggrandizements of medical science of the present day, this national disgrace is swept away; and the statistics of insanity clearly show that a very large proportion of the insane are now restored to the light of reason, and to the use of all their faculties. Dr. Prichard states that, in *recent* cases, the proportion was 7 out of 8 in the York Retreat. The different forms of the disease are now more deeply studied; their causes ascertained; their differing character met with appropriate medical and moral treatment; and society is enriched by the resuscitation of many a valuable member that had else been for ever lost to it. So amenable, in fact, is it now considered to proper management, that were it possible to obtain an exact comparison of the number of recoveries from other diseases with those of insanity, more would be found to recover from this than from most others. *Early* treatment is, however, so indispensable to rapid recovery, that, were the same prompt attention given to insanity that is generally given to other diseases, still happier results might ensue; but the invasion of mental derangement is often so insidious, and the relatives are so disinclined either to admit its existence, or to reveal it to any one, that the affliction is neglected till its real character becomes unquestionable. But why? as Horace says,

> "—————————— Nam *cur*
> Quæ lædunt oculum festinas demere; si quid
> Est *animum*, differs curandi tempus in annum?"

Such, however, is the case;—and the malady, becoming more confirmed by duration, is proportionally more difficult of cure. In estimating the Prognosis, it will be necessary to review the particular species, the predisposing or exciting causes, the simple or the complicated character, the age, sex, and constitution of the patient, as well as the duration of the disease—for the curability mainly, as I say, depends upon these circumstances. I gave a summary of them at the close of my last lecture, in accordance with the observation and experience of others as well as with mine own; and the complexion of the malady is now so well understood, that the classification of curable and incurable patients is readily made in every asylum. The cure, however, is not always either permanent or complete. Relapses and recurrences are ever to be apprehended, and each relapse increases the tendency in proportion to the inherent liabilities of the person, or the excitement of the occasional cause. Sometimes recurrences appear to be periodical or intermittent, and I know one case in which the person so afflicted was so aware of the approaching visitation that he always presented himself for admission at a private asylum before each crisis arrived, and requested to be taken care of! The difference between a Relapse and a Recurrence is that, in the former, the symptoms can hardly be said to have entirely disappeared ere they present themselves afresh: in the latter, the restoration to sanity has been complete. The return in both cases generally arises from exposure to what originally induced it, be the cause what it may, and is ushered in by the same symptoms that first indicated its existence. The longer and the more complete the recovery, the less is the liability to a recurrence, and as the frequency of recurrence or relapse arises mostly from premature discharge, patients should be considered exempt from every indication some time before their *Exeat* is signed. Recovery from mania is mostly gradual—a mitigation of the intense symptoms becomes observable, with occasional lucid intervals. Sometimes it is sudden. I gave an instance of it in my last lecture from the abrupt and sudden intimation of a parent's death: but this is not common. The removal of patients from their own home, and from the circle of their own family, will frequently produce a rapid and strong impression on the malady. The new scene, and the attendance of strangers on patients, awaken the inward inquiry into their situation and position; and the raving state which had hitherto prevailed will lapse at once into a state of tranquillity and silence—"a consummation devoutly to be wished." Where, indeed, the excitement is inordinate, seclusion and confinement become indispensable. By seclusion, I mean simply the removal from noise, or any other excitement, to a quiet apartment, till this turbulent manifestation has subsided; and at the Asylum at Hanwell we find that there are apartments on purpose, the walls of which are all padded, and the floor protected by bedding, so that all possibility of a patient injuring himself is entirely obviated, whilst the irritation of coercion is at the same time avoided. These *derniers ressorts* are, of course, only in extreme cases.

It appears extraordinary that an organ like the Brain, endowed as it is with all the phenomena which regulate existence, and which is so indispensable to life that even the slightest pressure on it simulates death, and annihilates all power both of mental and bodily action, *can* be so utterly disordered as to require incarceration year after year; and that, notwithstanding the privation of its principal functions, life should be protracted in so many instances to so late a period as maniacs attain,—that its intellectual office, in other words, should be totally suspended, and its physical continue unaffected! Yet so it is in some few instances, as the census of the continental asylums, as well as those of this country, can prove. In the comparatively few cases in which longevity occurs, the solution of the problem must be in the strength of the constitution, the absence of any mental anxiety or feeling, and the regularity of life; nor must we omit the care and attention paid to the health of the inmates of an asylum. Dr. Kitchener used to say that "Glass will last as long as iron if you take care of it;" and perhaps nothing conduces more to longevity in ourselves (I speak on the presumption of our *not* being insane!) than regularity in our regimen as well as in our diet. The average mortality I believe to be about 1 in 4, and those who feel an interest in the subject have only to inspect the registry of different asylums and make the calculation: suffice it to say that, in the aggregate (though there are many exceptions), the mortality of the insane very far exceeds that of an opposite condition, independently of the many fatal complications to which insanity is liable. Of these, by far the most frequent are Apoplexy and Epilepsy, and their concomitants, Paralysis and Convulsion; and these constitute, moreover, the principal fatal terminations. Very many sink from exhaustion, or, as Dr. Henry Monro terms it, "depression of vitality," accompanied sometimes by a general serous effusion and infiltration—the vital energy is exhausted, and the flame goes out because there is no more oil in the lamp. This is especially the case in Melancholia, and also where Mania has degenerated into dementia and idiocy; and inasmuch as insanity is a disease based on debility, such a termination may naturally be apprehended, especially where it has become chronic. In incipient or acute cases there is gradually more or less inflammatory action, with a vascular condition of the brain or its membranes; but then it is of so asthenic a character as not to sanction Depletion in its general acceptation. A few leeches to the head may relieve, and very often do relieve, and the same favourable result is derived from cupping, but the lancet is very seldom admissible, even in raving cases, and is now scarcely ever used. In puerperal cases, or in delirium tremens, we may almost pronounce it fatal, and a discrimination must always be made between inflammation and irritation. The latter state is that which mostly obtains in insanity, and universally in the forms which I have just mentioned. If blood be abstracted, it very rarely exhibits a buffy coat; and what alteration may be observable occasionally is rather to be explained on the ground of that violent exertion and mental excitement which Hunter affirmed would alter more or less its properties. I attended a case of violent mania not long since, in which blood had been copiously taken by the lancet, and the arm had bled afresh after the surgeon had left the house. I found the patient bathed in profuse perspiration, violent as ever, and restrained by a straight waistcoat;—next day he sank and expired. A post-mortem examination was refused. But in very recent cases (and this was only of three days' duration) it frequently happens that no disease of structure can be detected. In no class of diseases is this more frequently the case than in those of the nervous system. The structure of the brain and nerves is so extremely delicate, and there is something so subtile in their mode of action, that considerable disturbance often arises in their functions without our being able to detect a corresponding physical cause. Many of their disorders are consequently termed *functional*, as we cannot demonstrate to any certainty on what species of diseased structure the various forms of insanity depend. The dura mater, except in cases of violent injury, is comparatively little affected.

In Arachnitis we have generally a complete suspension of the mental faculties, and symptoms which progress from disordered intellect to that of complete destruction of it. There is also coma, accompanied with convulsion,—and subsultus. In the *chronic* form, first described by Bayle, the leading character of the attendant delirium is a "heightening and exaggeration of all the ideas." But this state of phrensy gradually subsides into mental alienation, impeded articulation, &c., running on to progressive paralysis both of body and mind. The French pathologists inform us that delirium is more to be expected where the superficial part of the membrane, on the convexity of the brain, is inflamed; but that Coma, Trismus, and Convulsive affections, indicate the Basilary portion to be the seat of disease. The membrane sometimes exhibits *patches* of inflammation; at others the inflammation is more extensively *diffused*, attended with opacity and thickening, and with *adhesion*, consequent on the deposition of albumen or lymph: and it is to the affection of the membranes rather than to that of the brain itself that Bayle, in his "Maladies du Cerveau," attributes insanity, and conceives that the subsequent effusion of serum is (by its pressure on the substance of the brain) the cause of the paralysis and dementia in which it so often terminates. The Pia mater is subject to the same indications of disease as the Tunica arachnoidea; and with these acknowledged evidences of membranous inflammation it appears strange that copious depletion should not be found advisable,—but so it is. Then, again, there is great expenditure of the nervous energy where the brain (from whence all nervous energy proceeds) is thus seriously excited; and this, in my humble opinion, is a main reason why depletion cannot be borne,—why sudden prostration is likely to succeed,—and why death follows fast upon it. Depletion may, and very often does, induce a temporary mitigation of all that tension, throbbing, and other sensations of plethora, which accompany early and acute mania; and those who are comparatively little experienced in such causes are induced to repeat the bleeding, should the Vis vitæ and Vis nervosa be not knocked down by the first bleeding. In inflammation of the pleura, or peritoneum, or other serous membranes, our mainstay is the lancet, and the loss of blood at times necessary to rescue the patient from the grave is scarcely credible. In the MEDICAL GAZETTE of March 1828, I published a successful case of pleuritis under my care, illustrative of such active treatment, in which one hundred and sixty ounces of blood were taken in five days. Dr. Blundell has also recorded two successful and similar cases, in which a gallon and a half of blood were abstracted in the same short period.

In reports of the Ardent Fever (the *Καυσος* of Aretæus) of the West Indies, Mr. Comrie, a Naval surgeon, says,—"In the course of three or four days above two hundred and fifty ounces have been taken away, and always with success when timely application was made." Here, however, there is no exhaustion of nervous power; the inflammation is confined to a membrane remote from the brain, and unconnected with it; and depletion must be carried till that inflammation is subdued. The physician, must, therefore, use his own judgment in the treatment, taking care not to confound arachnitis, as an idiopathic affection unconnected with mental aberration, with the delirium ferox of insanity, and the supervention of inflammation on it. What I particularly mean to express is, that although post-mortem appearances in Mania frequently give undeniable evidence of inflammation having existed, and although early depletion may be, and is, necessary to a certain extent (especially where the subjects are young and plethoric, the invasion of the attack sudden and acute, attended with strong arterial action, heat of scalp, contracted pupil, and intolerance of light and sound, &c.), the greatest care should be taken not to exhaust nervous energy to such an extent as to endanger the attack's degenerating into irreparable dementia. Pinel was so apprehensive of this result, and so awake to the deceptive character of vascular plethora in the brain, that he opposed bleeding most strenuously, as tending to retard recovery, and even to render recovery doubtful. Esquirol partly coincides in this opinion, but relied more on leeches occasionally; Dr. Rush was particularly blood-thirsty; and Dr. Haslam placed much reliance on it, but not to the extent recommended by Dr. Rush. Dr. Prichard believed the cases to be very few which would yield to large depletion, and considered that the existence of the patient would be much endangered by it. Dr. Burrows (who, following the example and trusting to the experience of others, tried depletion for several years) admits that he discovered his error, and became so cautious in advising it that he scarcely ordered venesection in six cases of mania or melancholia in the same number of years; and that since he changed his practice the cases had been less intractable and less tedious, for he remarked how suddenly the strength of lunatics gave way on general bleeding!

It sums up (as I said before) in this,—that the physician must exercise his own good judgment on this most knotty point in practice (not only in this but in every case, viz. the propriety or impropriety of bleeding), and prescribe in accordance with it. Suffice it to add, that Dr. Monro, Dr. Conolly, and other eminent physicians of the present day, who have devoted themselves to cases of insanity, deprecate the lancet altogether.

With respect to the substance of the brain, the leading alterations in its structure consist principally of increased firmness of consistence, or of the opposite condition, termed ramollissement, or softening; and some pathologists are of opinion that either condition may terminate in its opposite. Both are the result of inflammation. Paralysis is the common result of Ramollissement, and when these are combined it is needless to observe how utterly hopeless the case must be.

Lesion of the Cortical substance appears to be mostly connected with the intellectual functions, and disorganization of the medullary to affect more the motor powers; but disorganization of cerebral substance may exist to a considerable extent without any manifestation of it during life, and large quantities of the brain have come away after severe fractures of the cranium without any deterioration of the intellect. Instances of this are recorded in the Edinb. Med. and Surg. Journ., and I have heard also of a boy, who, on a portion of the brain coming away through a fissure in the skull, consequent on violent injury, coolly requested that it might be sent to his schoolmaster, in refutation of the schoolmaster having often told him "that *he had no brains*,"—a point in which they were quite at variance! In a word, great difficulty, uncertainty, and difference of opinion, exist on the physiology and pathology of this important organ, notwithstanding the results of dissection and all the researches that have been made: and more experience is yet necessary, and more study must yet be devoted to it, ere we can decide positively on the contingencies of function and lesion of this empire of reason and the soul! The only method (the late Dr. Baillie told me) of advancing medical science, is to compare the appearances after death with the symptoms that manifested themselves during life, wherever and whenever an opportunity presents. But public Hospitals and Institutions are the only places in which anatomical investigations can be efficiently made. In private practice it is always unpleasant to make such a proposal, and, when made, the chances are much against its being granted. I can only say, with respect to myself, I have been so discouraged by reiterated refusals that I now very seldom solicit it. Only it is distressing to think how many a valuable specimen of disease which would have been a most desirable acquisition to our Museum, and which might materially assist the advancement of pathology and science, is, through false feeling, consigned to subterraneous decomposition.

Leaving, therefore, any further discussion of the pathological condition of the encephalon, I will merely allude to the visible and outward aspect of the chronic lunatic. Here the hair is generally dry and stubbed, sometimes neglected, long, ragged, and matted; the skin greasy, cadaverous, sallow, with (in many subjects) a papulated variegation resembling acne; sometimes it is dry and harsh, as though there were little or none of that secretion of insensible perspiration which we find in health and youth. There is, in short, a general want of tone in the skin, as well as in the whole constitution; the clear transparency is ill exchanged for a muddy aspect, and the whole appearance of the patient becomes so aged and altered, that, if ever Beauty reigned, scarce a vestige will be discoverable. And yet that fell disease, that fatal scourge of Europe, so linked with Beauty as to carry off more than half her offspring (Phthisis), is one of the most fatal diseases consequent on insanity. Most lunatics become emaciated; for, ravenous in most instances as is their appetite, the process of nutrition lingers, at least in a large majority, and tubercular cachexia frequently supervenes, or they become atrophied, without the usually prominent features of phthisis. This is, however, by no means universal; for corpulence may be observed here and there in most asylums, and if it were true (which *I* beg leave to deny) that "Fat paunches have lean pates," we might expect a much larger number of them amongst the insane—nay, Bedlam would be crammed with little else! Others die of exhaustion, induced by long-continued excitement, want of sleep, and that smouldering fire of adynamic fever which gradually consumes its fragile tenement. This latter condition is often leagued with a chronic inflammatory state of the mucous membrane of the stomach and bowels,—that subacute "gastro-enterite" on which some authors seem to imagine insanity to be mainly dependent; for, although constipation is a common event in insanity, yet an opposite condition of a dysenteric character will frequently be found to prevail, terminating now and then in colliquative diarrhœa, and death. Without, however, concurring in so fanciful a theory as that insanity is a quasi-reflex action from the abdominal viscera, it has been shown by the statistics of upwards of one thousand fatal cases in France, that, next to diseases of the brain and its membranes, more deaths were assigned to diseases of the abdominal viscera than to any other cause; and, next to them, to diseases of the heart and lungs. The rate of mortality is greater in men than in women. All these numerical results, however, are uncertain, and of course vary with different contingent circumstances in different asylums.

The allusion to these different diseases to which lunatics are liable, and to which they mostly succumb, naturally awakens our attention to the treatment of them. But the medical treatment of these unfortunate beings is principally comprised in the treatment of the several diseases with which they may be visited; for we have no *antimaniacal* drugs—no Pharmacopœia *Lunatica*. Their diseases must be met much in the same way as the same diseases are met and treated where reason is undisturbed; and the hellebore with which Melampus was said to have cured the daughters of Proteus may be classed in efficiency for the cure of *mania* with the pills that were sold to prevent earthquakes! Courses of different medicines, such as mercury, emetics, nauseants, cathartics, narcotics, counter-irritants, tonics, &c., have all been tried, and each of them in turn may have been occasionally attended by the best effects, and by recoveries; and (to be brief) where certain symptoms have shown themselves calling for specific medicines, they have (as might be expected) fulfilled the object of their exhibition. Tonics are undoubtedly much required and much used (as may be imagined where debility is so common), and perhaps more than any other class of medicines. Medicines of all kinds are equally necessary, according to circumstances, for the insane as well as for the sane. Nevertheless, there is no *Panacea* in either case! Many cases of insanity present no corporeal disease, though many others are so involved in, or based on it, that they are amenable to cure, in which case "Sublatâ causâ, tollitur effectus." Hence, a ward in a public lunatic asylum may require as much medicine, and as much variety of treatment, as the patients in a hospital. In fact, they require double care; for the mind is diseased as well as the body, and must be equally ministered to. "No one," as Dr. Davey observes, "can be expected to succeed in the treatment of mental diseases, who fails to regard the brain as the organ of the mind." Again: "As regards the strictly medical treatment of the insane, those general principles of science, physiological and pathological, must invariably direct the practitioner, which he is in the habit of recognising when engaged in the management of all other diseases, and of every kind of injury; and without great and unremitting attention to the various subjects of diet, ventilation, occupation, amusement, classification, &c., the physician will find all his labour in vain. To these all-important auxiliaries we are indebted more particularly for the successful result of the grand experiment made at Hanwell by Dr. John Conolly, viz. the entire abolition of all kinds of restraint in the management and cure of the lunatic, and the adoption of the humane plan of treatment,—a fact this, than which none other appertaining to medical history is more deserving the gratitude of the philanthropist and the esteem of all lovers of science; and one, moreover, not only well calculated, but destined to give to the name of Conolly a niche in the Temple of Fame by the side of those of Oberlin, Fry, Montague, and Clarkson." I cannot quote this merited compliment to Dr. Conolly, from the work of his former colleague at Hanwell, Dr. Davey, without expressing my unfeigned pleasure in knowing that Lord Ashley (now Earl of Shaftesbury), whose name and exertions in the cause of Philanthropy stand out in such transcendantly bold relief in the present day, has most successfully set on foot and carried out the means of presenting Dr. Conolly with a substantial testimonial of the high appreciation in which he is held by his medical brethren and others for the science he has displayed, as well as the humanity which he has evinced, in the care and management of the insane.

It is remarkable how healthy the insane are. In a visit which I made last week to the Asylum at Hanwell, in company with Dr. Conolly, I was astonished to find scarcely an invalid amongst nearly one thousand patients, — certainly not half a dozen requiring medical treatment for bodily disease. I have observed the same immunity in the Asylums in Essex. Much of this exemption of disease is attributable to the cleanliness, ventilation, regulated temperature, exercise in the open air, regularity of diet and living, and all those known rules and regulations which act as prophylactics generally.

In going round Bethlehem Hospital with Dr. Monro, only yesterday, there was scarcely a patient who had occasion for his professional advice for any bodily disease. There was what sailors call a "clean bill of health" amongst about four hundred of the *detenus*, and the ventilation, cleanliness, and regularity, were striking features of the institution.

The grand principle of modern and improved treatment is to avoid even the appearance of unnecessary restraint, as well as restraint itself; and to treat the insane with a confidence which will almost invariably excite their secret but proudest endeavours to preserve and retain. There is a secret power which holds the helm and guides it more effectually in its controlling and moral influence than the rude restraints applied to the bones and muscles of the human frame. There is no influence so powerful as the sphere of a *moral* influence. Put the padlock on the mind! The *Lock* on the *Human Understanding!* One of the wildest and most violent patients at this time in the Asylum at High Beech is on his *Parole;* and although he is most anxious to be set at liberty, and continually appeals for it on every occasion of my visiting that asylum, and could at any hour walk into Epping Forest and escape in any direction, no inducement can tempt him to open the latch gate which bounds the garden in which he daily walks. "*La Liberté nous rend fidèles.*" The reliance placed on his sense of honour has awakened a proper pride within him, and strongly illustrates the good effect of moral treatment. "There is a stage" (says Dr. Gooch) "approaching convalescence, in which the bodily disease is loosening its hold over the mental faculties, and in which the latter are capable of being drawn out of the former by judicious appeals to the mind." It is when the icy fetters in which reason has been enchained begin to thaw beneath the genial ray of moral influence, that the prospect and the hope of recovery beam forth. Kindness of manner,—appeals to their sense and sensibility,—cheering promises of cure and liberation,—and dealing with their reason as though she had not been shaken from her seat, soon give the medical superintendent a valuable ascendancy over patients, and materially tend to disperse the thick cloud of delusion in which their intellect had hitherto been enveloped. It obtains their confidence and conciliates their esteem. They look upon their manager as a minister of "balm to their hurt minds," instead of a tyrant and a despot. This feeling was extensively demonstrated during my visit to the different wards with Dr. Conolly last Saturday. Their subservience and affection seemed equal; but

> "If e'er it chanc'd, as sometimes chance it must,
> That one among so many overleap'd
> The limits of control, his gentle eye
> Grew stern,"—

and they were instantly subdued. They are brought to consider themselves as visitors instead of prisoners, and to feel that when their minds, which had been in an unsettled state, shall have recovered their serenity, they will return to their business and their friends. In the interim, their attention is engaged, and their time pleasantly and advantageously passed in occupations connected with trade, or in diversified innocent amusements, both in doors and out, according to their fancy and inclination. It is a signal error to suppose that the insane are to be treated as if they were wholly irrational, for they are not so: very many of them are accessible to reason—at all events, and in all cases, they should be treated as if they were; and (if capable of being reasoned with) a well-directed reply will sometimes remove a false impression from a patient's mind. A lunatic, under the care of the late Dr. Allen, imagined himself to be Jesus Christ, and, in proof of it, showed him a scar he had in his side, which, he said, had been occasioned by his having been pierced with a spear. Dr. Allen, remonstrating with him, remarked that our Saviour was wounded on the opposite side. Ashamed apparently at the fallacy of his own reasoning, he hid himself under the bed-clothes, and never again reverted to the impression.—But, to return to the subject of reposing confidence in patients. Nothing but absolute necessity should justify absolute restraint. It only exasperates the furious, and renders the suicide more determined to effect his purpose. The faults of lunatics, like those of children, should be viewed with pity, for they are the ebullition of feeling without understanding. We must visit them lightly, blending firmness with kindness, and tempering our reproof with moderation and prudence, like the

"Father!—whose authority in shew,
When most severe, and mustering all its force,
Was but the graver countenance of love!
Whose favour, like the clouds of spring, might lower,
And utter now and then an awful voice,
Yet had a blessing in its darkest frown,
Threatening at once, and nourishing the plant!"

As soon as their convalescence renders them capable of estimating kindness, they will much more readily submit, and, even in the height of their most furious paroxysms, it is astonishing how much may often be done by liberality and gentleness. This may be extended or curtailed, according to their conduct; making them sensible of greater indulgence in proportion to their exercise of *Self-control*—a virtue and a duty which should be inculcated and impressed on them in every possible way. I will give one instance, and only one, to show the advantage of liberality combined with the precept of teaching this important duty.

Some years ago, a man, about 34 years of age, of almost Herculean size and figure, and very violent, was brought to the York Retreat. He had been often afflicted; and so constantly, during the present attack, had he been kept chained, and so fearful were those who had the charge of him of his violence and his strength, that his clothes were contrived to be taken off and put on by means of strings, without removing his manacles. They were, however, taken off when he entered the Retreat, and he was ushered into the apartment where the superintendents were sitting at supper. He was calm; his attention appeared to be arrested by his new position. He was desired to join in the repast, during which he behaved with tolerable propriety. After it was concluded, the superintendent conducted him to his apartment, and told him the circumstances on which his treatment would depend,—that it was his anxious wish to make every inmate as comfortable as possible, and that he sincerely hoped the patient's conduct would render it unnecessary to subject him to coercion. The maniac was sensible of the kindness of his treatment. He promised to restrain himself, and he so completely succeeded, that, during his stay, no coercive means were ever employed towards him. He was frequently very vociferous, and threatened his attendants, who, in their defence, were very desirous of restraining him by the jacket. The superintendent on these occasions went to his apartment, and though the first sight of him seemed rather to increase the irritation, yet, after sitting some time quietly beside him, the violent excitement subsided, and he would listen with attention to the persuasions and arguments of his friendly visitor. After such conversations, the patient was generally better for some days or a week, and in about four months he was discharged perfectly recovered!

Can it be doubted that, in this case, the disease had been greatly exasperated by the mode of management? or that the subsequent kind of treatment greatly tended to promote his recovery? Surely the case requires no comment.

In descanting on the general nature of insanity, I have hitherto confined myself to those forms which principally come under our notice.

"*Proxima* deinde tenent mœsti loca, qui sibi mortem
Insontes peperere manu—lucemque perosi
Projecere animas!"

And as this is a class of patients whose melancholy exit implants a never-dying horror of the disease, vibrating mournfully on surviving relatives and friends, I cannot quit my subject without a few passing remarks on so distressing, but, alas! so common an attendant. Amongst the Greeks, or still more amongst the Romans, Suicide was, under certain circumstances, not held in horror, but in high estimation, and was preferred to slavery or subjection, or the epithet of "nobile" would never have been added to the "lethum Catonis."

In France, it is comparatively little thought of, and though the English are often stigmatised with the propensity, it is far more rife with our Gallic neighbours than with us. The instances and the moting causes are many and variou occasionally the deed is done without any apparent incentive. The emotions consequent on a reverse of fortune may perhaps be considered as the principal; nor, when we admit that even the groundless apprehension of it operates as a fearful cause of, and presents a not uncommon feature in the malady before us, can we wonder at the result of the saddening reality. It springs alike from sudden impulse and from long premeditation. It occurs during delirium and mania, and follows on the depression and anxiety respecting futurity in cases of melancholia. Strange as it may seem, such persons who are goaded to madness by the delusive anticipation of pain and hell, rush into its very jaws by the perpetration of a crime which we are taught would subject them to the eternal punishment they dread! It reminds us of the desperation pourtrayed by Byron in a shipwreck.

> "Then rose from sea to sky the wild farewell,
> Then shriek'd the timid, and stood still the brave,
> And some leap'd overboard with furious yell,
> As eager to *anticipate* their grave!"

Some seek it simply as a termination of *ennui*, of satiety of life and of the exhaustion of all its pleasures; some from remorse and self-reproach, from chagrin and disappointment, from blasted prospects and from blighted hopes,

> "glad to be hurled
> Anywhere—anywhere out of the world,"—

and owing to an impression that the act is almost *inseparable* from insanity, a verdict to that effect is mostly recorded. Could this sudden impetus have been foreseen, or this matured determination been discovered, there is no doubt that it might often have been prevented. A brisk cathartic, or a soothing anodyne, or a calm interposition of consolation or remonstrance, might have at once dispelled the visionary horror which prevailed over their clouded reason; but (as I observed in my preceding lecture) the impulse comes upon them in the stillness of night, when the victim first awakens to a magnified view of his unhappy condition, and when solitude favours the perpetration. The dread of poverty or fear of future damnation is incompatible with life, and drives them on to a madness which no influence of principle can restrain—no regard to consequences can withhold. Occasionally it has resulted from a sort of fascination. Such persons are unable to look down from an eminence or a precipice without an impulse to throw themselves from the top it; they have been known to request that razors may be taken from their possession, so distressing was the desire to avail themselves of the opportunity or the instrument; and the Monument has now been railed in, to preclude the possibility of such an unaccountable propensity, for it can arise from no process of reasoning. It may be partly physical, affecting the circulation of the brain, which is a reasonable deduction from the accompanying vertigo; or it may arise from a peculiarly high susceptibility, with extreme weakness of the nervous system. Thus we find sudden precipitation occur in nervous fevers and in Delirium tremens. Most frequently, some form of partial insanity is the principal or concurring cause.

In many instances of suicide the influence of hereditary predisposition is fully established. Dr. Gall asserted that he observed it in several successive generations, and M. Falret considers it to be more intimately dependent on hereditary predisposition than any other form of insanity, especially in cases of melancholia. The seasons are by many supposed to operate, or at least to exercise a partial influence; and the gloomy month of November has had this imputation cast upon it. The Census, however, leans to the warmer months, and the instances are found to predominate when the thermometer ranges above 70°. A warm and moist atmosphere is found to depress the energies of the nervous system, connected possibly with the condition of electricity in the air, and depressing the spirits; but these are very insignificant reasons for such an impulse, and we must tax those to which I have already alluded. That the deed is not by any means confined to persons of weak mind is extensively proved when we reflect on those who have committed it; on the contrary, it may be easily traced in such cases to vascular plethora in an organ which has been overstrained in its intellectual occupation; engaged most deeply and responsibly in political and financial measures, in the management of public business or negotiations, by which the equilibrium of the circulation has been disturbed; inducing nervousness, headache, irritability, and other manifestations almost amounting to delirium. In cases such as this, an appropriate medical treatment, with rest both of body and mind, would most probably prevent such a contingency; and it is the duty of relations to watch the manifestation of those changes in the feelings and disposition which may often be observable, and which generally precede the act. Common sense will point out the means to be adopted; and the usual derivatives from the brain, such as local abstraction of blood, cooling saline purgatives, cold water, or evaporating lotions to the head, pediluvia, exercise in the open air, and in some cases (that is to say, where the brain may suffer from *want* of tone) the judicious exhibition of morphia or henbane should be resorted to, in addition to rest from those labours, or removal (where practicable) of those causes to which the phenomena may be referable or referred.

Where innate and connate idiocy has, from its hopelessness, no further demand on those who are blessed with reason than their mere commiseration, or their Samaritan care, I have nothing to offer beyond the blended breathings of my sympathy with others. In this state, the moral, the intellectual, and the reflecting manifestations are in some nearly, in others entirely, deficient; in some, the instinctive emotions are apparently unfelt or undeveloped—they form the humiliating link of human with animal creation, evincing nothing but brutal propensities and uncontrolled desires—they are rachitic or scrofulous, epileptic or paralytic—and their melancholy state is consequent on unalterable physical disorganization. Their faces and features are as destitute of expression as though their respiratory nerves were absent or destroyed; their mouths are gaping and perpetually drivelling, and they, to all appearance, are dead to all perception, emotion, or ideas. Lord Carlisle has very recently, however, in a public meeting convened for erecting a hospital for idiots, depicted their condition in language so replete with an eloquence which my humble ability would in vain attempt, that, inasmuch as it is too appropriate to require any apology for introducing it, and too illustrative of the subject to sanction its omission, I will proceed to quote it:—

"Yet, upon reflection, few descriptions of persons can be conceived more entitled to our generous sympathy and our active assistance. Without being invested with the more solemn and picturesque drapery of tragic dignity, they are exposed, perhaps, beyond all others, to the cold neglect, the coarse jibes, the brutal merriment of a callous and unfeeling world; they are the butt and scarecrow of the village green, often the drudge sent out from the domestic hearth. Take it that they meet with no ill-treatment—that no aggravation of cruelty or scorn embitters their hard lot—nay, that family decencies and family affections gather round them, guide their path, and smooth their pillow: yet what a life of negatives is theirs at best! Nature spreads in vain her witchery of hues, her golden sunsets, and her starry firmaments! To their untutored ears music has no melody; to their stagnant minds literature, and science, and art, and the sacred Muse, utter no varied voice! To their turgid souls devotion points no God! Too often, though dead to pleasure and to virtue, they exercise powers of mischief and annoyance, and though we must believe and hope they are without the responsibilities of crime, they yet incur all its degradation.

"The instantaneous cure, the entire change of the possessed mind, were only the work of Him whose voice the Dæmons heard, and at once came out." "But" (he continues) "there is reason to believe that much may be done—that positive advances may be made—that, by judiciously administering to the requirements both of the physical and moral organization (intimately connected and interlaced as they frequently are with each other), orderly habits, steady employment, rational tastes, kindly feelings, just sensibilities of the affections and the conscience, the sense of right and wrong, the fear and love of God, may be introduced and fostered, and developed into all their multiplied and goodly results; so that, in fact, in the best instances, the idiot may be converted into a decent and creditable member of society; in the *worst*, his existence may be surrounded with an atmosphere of comfort and of tenderness."

But enough! I hope that I have advanced sufficient to give a general outline of my views of insanity, and an abstract of the proper management of its subjects; and more than this is scarcely to be expected in the narrow limits of time assigned to a Lumleian lecture. I have dwelt rather on those divisions of it which are more susceptible of cure, than on the lamentable conditions in which this happy termination is either far less, or hitherto altogether beyond the reach of medicine or management. Would that the third division (by which I mean dementia, fatuity, and idiocy), were equally under our control! Where, however, it has supervened on that disorganization which is incompatible with reason and intellectual function, be it from age, or be it from disease, I fear that little must be expected, and that little can be done. Let us hope, however, that these cheering anticipations may ultimately be realised; that the general diffusion of sentiments so strong, clothed as they are in the drapery of so much eloquence and so much beauty, may be the means of extending the blessing of recovery to those who may at present be considered beyond its pale. Would that I had the capability of enhancing such a blessing either in person or in purse. I can add nothing to language so powerful and so refined. *I* have not the matter which can contribute more to what little is already known in cases of such a character; neither have I the talent or ability which can justify my trespassing at greater length on your time and your attention. I thank you most cordially for the patience which you have manifested in listening to what I have offered during the lectures which I have had the honour of delivering: and as this is (as I premised) my maiden appearance in the character of a lecturer, I must rely on your kindness to excuse the myriad imperfections in which I grieve to acknowledge they abound.

Original Communications.

CASES IN MIDWIFERY,

WITH REMARKS.

By Thomas Radford, M.D., F.R.C.P.Ed., &c. &c. &c.
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[Continued from p. 902.]

In order that the readers of the London Medical Gazette may fairly judge as to the truth of the deductions which I shall hereafter draw from the facts contained in the five cases of Cæsarean section in which I have been concerned, I deem it desirable to insert the three cases (which have been already published) in the pages of this journal. Two (unsuccessful) are printed in the Edinb. Med. and Surg. Journ., vol. lv., p. 67. The third (successful) was read at the Anniversary Meeting of the Provincial Med. and Surg. Association, held at Worcester, Aug. 1st, 1849, and afterwards placed in the journal of that Society.

This case I shall first cite. It is, however, proper to mention that I have curtailed the remarks, which shall be added in the general observation which I intend appending at the conclusion of the present series of cases.

Case III.—*Cæsarean section* (*successful*).

The subject of this case — Mary, wife of William Haigh — resides at Flats Fold, a mile from Ashton-under-Lyne, and about eight miles from Manchester. On my arrival, at half-past three o'clock P.M., I called upon Mr. Cluley, who accompanied me to the case, and, with the greatest courtesy and candour, gave me as we passed along the following particulars:—She had felt slight pains, according to the account of the friends, about a week; but Mr. Cluley thought that true parturient pains had only existed about three days, and which were so slight as not to require his interference. On this day (Sunday, May 20th, 1849), at nine o'clock, he was again called, and, although the pains were still trifling, he made an examination per vaginam, but was unable to feel either the os uteri or the presentation; he therefore had her taken out of bed and placed on the lap of a female friend, and again repeated his inquiry. The head of the infant was now felt, and the os uteri found dilated to the size of a half-crown piece. In this manœuvre he unintentionally ruptured the membranes. The pelvis, he mentioned, was considerably contracted. I found her lying on the right side. Pulse 120; tongue clean and moist; her countenance tranquil, but a little flushed. Her bowels had been freely and fully moved this morning; and she had also freely and duly urinated. She was helplessly fixed on her side, and, when requested to turn, she remarked that she suffered very great pain when she made an attempt to do so, or was by another person turned on the back. The pelvis was very considerably altered from its natural shape; its sides were flatter, and the posterior division of the ilia, especially on the left side, projected backwards, and the upper portion of the sacrum and the lower lumbar vertebræ had sunk in an inward and downward direction, so that a great concavity was perceived here. The uterus inclined rather to the right side, and stood considerably more forward than usual, although it had not assumed the retort form to the same degree as I have witnessed in former cases; its tissue felt soft and compressible. The fundus or upper division of the organ was fluctuant, and rounder in shape than it generally is after the discharge of the liquor amnii, which led me to conclude that a great portion of this fluid still remained. This opinion was corroborated when I attempted to ascertain the position of the infant, for at the lower or cervical portion of the uterus, from whence it was assumed the fluid had escaped, the projections of its body could only be felt.

By a vaginal examination I found the lower aperture of the pelvis very considerably diminished by the close approximation of the rami of the ischia and pubes, which nearly destroyed the arch, and by their jutting forward there remained only a narrow slit, which would not admit the point of the finger. In the transverse diameter, two fingers could only just be placed between the tubera ischii: the antero-posterior diameter was also much shortened by the coccyx and the lower part of the sacrum being considerably incurvated. This great diminution in the outlet rendered it difficult to measure the brim, so that it was necessary to carry the hand very far backwards to accomplish it. Its figure was tripartite, or composed of three divisions. This alteration in the brim was occasioned by the falling downwards and forwards of the upper part of the sacrum and the lower lumbar vertebræ, which inclined a little more to the left side, and by the body of the ossa pubis and ischii being forced backwards and inwards, and by the jutting forwards of the symphysis and rami of the pubes. The measurement of the widest part of the conjugate diameter, in the two lateral divisions, did not exceed an inch and a half; I could only place two fingers, one lying a little over the other. The anterior division was not more than half an inch in its widest part, as it would scarcely admit one finger edgeways. The length of this narrow opening is not relatively available in practice. In the transverse diameter of the brim I could just place three fingers parallel with each other. The external genitals were free from tumefaction, and the vaginal lining was moist, and of a natural temperature. Whilst lying on her side I was unable to feel either the os uteri or the presenting part of the infant; but on placing her on her back (which occasioned her great pain), the os was felt to be dilated to rather more than the size of a shilling. She had not felt the movement of the infant since the morning, but by the stethoscope I satisfactorily heard the pulsation of its heart, which fact Mr. Cluley afterwards corroborated.

With my opinion as to the position the Cæsarean section ought to take in obstetrics, I at once concluded that it was the only operation which was justifiable, and indeed capable of giving the best chance of life to both mother and infant. Mr. Cluley most cordially acquiesced in this opinion. We now informed her husband of the nature of the case, and the means to be adopted. He answered, "If nothing else would save her," he willingly submitted to any plan we considered right. When a similar proposition was made to the poor woman, she received it with the greatest resignation: it was unaccompanied by either mental or physical disturbance. At Mr. Cluley's request, Dr. Lees, Messrs. Hunt, Gibbons, Galt, and Brewster, were present at the operation. Before the incision was made, I was anxious as far as possible to ascertain where the placenta was located, and I therefore placed my ear over the left division of the uterus. From the negative evidence, I concluded that it was not fixed on this side of that organ. Mr. Cluley adopted the same plan, but thought he heard the placental "soufflet." I again applied my ear, and still heard nothing. Dr. Lees tried, and considered the sound to arise from the friction of the ear on an interposed piece of linen. Mr. Cluley, after a second trial, agreed in my opinion. I therefore suggested the left side of the linea alba as the proper situation to make the incision. I now raised the fundus uteri, and Mr. Cluley divided the abdominal integuments on the left side of the umbilicus to about six inches in extent, from which very little blood was lost. An opening was now made into the uterus by a scalpel, which was further extended upwards and downwards by the probe-pointed bistoury. At this stage some little bleeding took place from the divided sinuses, and there was also a considerable discharge of liquor amnii. I now, as quickly as possible, introduced one hand into the uterus, over the infant's hip, and fixed the fingers under the flexed thigh in the groin, and having placed the other hand on the opposite side of its breech, I extracted it vigorously alive. During this manœuvre the uterus strongly and regularly contracted. The funis was now tied and divided by one of the gentlemen present. Afterwards I seized the funis with one hand, and with the other readily detached and brought away the placenta, which was fixed on the right latero-posterior surface of the uterus. There was some blood discharged, but not more than frequently happens after ordinary or natural labour. Several convolutions of intestines, with a portion of omentum, now protruded, which
had up to this time been su
effectually restrained und
minal parietes, but they
returned. I carried my

the wound to ascertain if any portion of these viscera had descended into the uterus. The integuments were brought into proximity, and held together for a short time by a hand placed on each side; and as there was no further discharge of blood, ligatures were inserted at an inch distance from each other. Mr. Cluley used a long needle with a scalpel-like handle for this purpose, which admirably answered; it is much superior to those in ordinary use. Straps of adhesive plaster were laid across the wound, and on each side a compress of lint was placed, and over all a bandage, just tight enough to give a firm support.

During the whole time her mind was calm; she never even uttered a complaint. She remarked that her sufferings during the operation had been much less than what she had endured previous to it. Pulse from 80 to 90 in the minute. Tinct. Opii, ʒiss., administered.

Half-past 7.—Pulse 100 to 120; dosing; there was no hæmorrhage or vomiting; had taken some gruel. Ordered mucilaginous beverages and farinaceous diet. At a later hour the same evening Mr. Cluley saw her, and found a little abdominal uneasiness. She had slept, and had a lochial discharge.

May 21st.—Monday, half-past 2 P.M.—Pulse 130; tongue moist; face less flushed; abdomen tympanitic, and slightly painful; fresh and plentiful lochia; bowels not moved; five ounces of water drawn by catheter. Continue mucilaginous drinks, &c. An enema of warm water to be administered in the morning.

22d. Tuesday, half-past 9 A.M.—Mr. Cluley had ordered forty drops of Tinct. Opii to be taken at bed-time. She had several times vomited a dark-coloured fluid during the night, and she still continues to do so; pulse 120; abdomen tympanitic, but not tender; tongue slightly furred; lochia natural; bowels still unmoved. After loosening the bandage there was a discharge of sanious matter. Ordered an enema, with Ol. Ricini, ℥j.; Spt. Terebinth, ℥ij., &c. To take Ext. Col. Co., gr. x.; Hyd. Chlorid., gr. ij.

23d. Wednesday, half-past 9 A.M.—Hiccough has been troublesome; has bilious vomiting; tongue brownish; pulse 120; has a burning sensation in the throat, and the side of her mouth is excoriated: she says she tastes the turpentine which was given in the enema: bowels not moved. Ordered Sodæ Sub. Borat, ʒij.; Aq. distillat. ℥iij.; Mist. Acaciæ, ℥iij.; Capt., ℥j. tertiis horis. Gum-water to drink. To have an enema, with three ounces of ox-gall and a pint of water.

24th. Thursday, half-past 9 A.M.—Symptoms continue the same; but the tongue is slightly aphthous; two enemata were administered, which produced two small scybalous stools; wound much lessened in size, but its edges are flabby and have not united; ligatures still firm. To continue the same plan; to have the ox-gall enema repeated.

25th. Friday, half-past 9 A.M.—All the symptoms better; has had free alvine evacuation. The integuments over the sacrum are inflamed and excoriated, and have a tendency to slough. To continue the same means; ordered warm water enema. The parts over the sacrum to be dressed with collodion; warm water to be injected per vaginam into the uterus.

26th. Saturday, half-past 9 A.M.—Tongue red and clean; bowels twice freely opened; has vomited several times since yesterday; wound granulating, and looking well. To continue the same plan.

27th. Sunday, 9 A.M.—Had suffered from occasional deafness and tinnitus aurium yesterday. This morning she is not so well. Pulse 125, and tremulous; the tinnitus aurium and deafness still continue; has numbness of one arm and leg; the bowels not moved. To take a little milk, to have a warm water enema administered, and afterwards one of milk. To take Ammon. Sesquicarb., if required.

28th. Monday, half-past 9 A.M.—Yesterday not so well; had delirious rambling. Pulse from 120 to 130; great restlessness and tossing about; was low in spirits; seemed much weaker; the bowels were moved; has taken the ammonia. She is much better this morning, and has had some sleep. The wound was patulous, and from it a dark-coloured and fetid fluid escaped. To continue milk diet; warm water to be thrown per vaginam into the uterus.

29th. Tuesday, half-past 9 A.M.—All the symptoms are better; the wound is filling up by granulation; one ligature came away. The bandage was wet, from the water which had been injected per vaginam into the uterus escaping through the wound. Slough over the sacrum came away, and the sores are looking well. Collodion to be again applied; to have a warm water enema first, and afterwards one containing ox-gall if required.

From the above date up to June 7th nothing occurred in the character of the symptoms to require particular comment. She continued progressively to improve. The wound gradually filled up by granulation, and it is at this time nearly healed. The fistulous opening, through which the water, which had been injected per vaginam into the uterus, had escaped, is now completely obliterated. The sores over the back part of the sacrum, and on the nates, are also quite well.

During this period the diet chiefly consisted of milk, but towards the end of it animal food was allowed once a day. The mucilaginous mixture, with Sodæ Sub-boras, was the only medicine which she took, except the gum-water. When the bowels required relief, an enema of warm water was first administered, and, if necessary, this was followed by one containing ox-gall. The collodion was continued as a dressing to the raw surfaces behind, until the latter part of the time, when pads of cotton, with a mild unguent, were substituted. During my absence from Manchester I received favourable reports of the patient from Mr. Gibbon, under whose professional care she was placed, in consequence of Mr. Cluley's severe illness. In his last letter, dated June 18th, he says:—"The wound is very healthy, but not quite healed."

June 26th. Tuesday.—I visited her along with Mr. Cluley, and found her down stairs, and looking very well; she remarked she was in excellent health. On removing the dressings, we found two or three spots of exuberant granulations, which only required the application of Argent. Nitras, and a little dry lint.

July 15th, Sunday.—I called on Mrs. Haigh. She was looking extremely well, and in excellent spirits. She observed that she was better, and could walk with more ease to herself than she could have done for a long time before the operation: the wound was quite healed.

It was a great object with us that the infant's life should be preserved. We therefore strenuously recommended a wet nurse; and, if one could not be obtained, then that it should be supplied with asses' milk; but, from unavoidable circumstances, neither were procured until its life was placed in great danger. All those mischiefs consequent upon dry nursing appeared; such as bowel affections, a threatening of marasmus, and convulsions. At length a nurse was obtained, after which the infant improved, and on this day is quite well.

Before I proceed further, I take this opportunity of mentioning that the surgical part of the operation was most skilfully and dexterously performed by Mr. Cluley; and his punctual, assiduous, and unremitting attention to the patient, are highly honourable to him. To him I am personally indebted, and return him my sincere thanks for his uniform great kindness and courtesy.

Remarks.—Mary Haigh was occupied before her marriage as a domestic servant, and was then strong, and capable of undergoing great exertion. She is of a sanguineo-lymphatic temperament; her skin fair, with a red [illegible] on the cheeks; her [illegible] reddish brown colour; the [illegible] eyes is rather [illegible], being of a brownish grey, and [illegible] animated expression. [illegible] living, and very healthy. [illegible] has been dead many years [illegible] likely, her death was [illegible] some chronic disease of [illegible] as I understand she was ill [illegible] abscess in the back.

Our patient is 41 years of age, and has been married nearly [illegible] this period she has had [illegible] The labours of the [illegible] natural and quick; the [illegible] number happened three years ago, and was so rapid that the infant was born before the accoucheur arrived. After the birth of the second, she was rather more delicate, and suffered a little from indigestion; and, about three or [illegible] years since, first complained of slight, then more pains about her hips. Two years since she was confined to bed for a short time, by pains about the pelvis, but she gradually recovered, and afterwards was able to walk about tolerably well. Her general health remained the same up to the period of her last pregnancy. She was now observed to limp a little when she walked, and to be less in height.

During her gestation her progression was more difficult, and her gait more waddling. She also complained more of pelvic pains, and the diminution in her stature now evidently increased. Mollities ossium, the disease under which she suffered, usually commences during pregnancy, and generally becomes suspended in the interval, returning in an aggravated form in each successive pregnancy, until its ravages have completely destroyed the form of the pelvis. In this case, however, it did not exactly pursue this course. There is no doubt there existed a strong predisposition to the disease—most likely hereditary; and probably the disease began at the latter part of the second pregnancy, but evidently no great, if any mischief, was done to the pelvis at this time, or for a long time after this period, as the third and fourth labours were so rapidly and easily terminated. The rapidity of its progress is remarkable; for there is little doubt that the great degree of distortion took place immediately before and during the last pregnancy. Sometimes in this disease the bones are so soft that they yield when the hand is introduced to make an examination. This happened here, as Mr. Cluley thought he felt a giving way of the bones when he examined the pelvis.

Opium is usually given after great operations, to lessen the shock on the nervous system; but, in the present instance, we had no evidence that such an effect existed, and therefore, on this account, the drug might have been omitted. A second dose was administered by Mr. Cluley, to which he attributed the vomiting which afterwards occurred. He considered that it had produced an effect similar to that which follows a debauch. It most likely constipated the bowels; but there is no doubt that this was chiefly caused by the bowel being compressed between the bulky uterus and the projection of the lower lumbar vertebræ and promontory of the sacrum. The garrulous delirium, the convulsive twitchings, and tinnitus aurium, &c., were considered by Mr. Cluley to depend on a state requiring more support: we therefore agreed to give a milk diet; and, as its effects were so satisfactory, it was continued to the end.

The negative system of treatment here pursued considerably contributed to the well-doing both of this case and also of the one in which I was concerned along with Mr. Goodman. I have also observed the same plan most beneficially carried out in the after-treatment of abdominal sections for the extirpation of large ovarian tumours. There are great objections to the use of purgatives after these great operations, as the mucous membrane of the bowels is so readily disturbed: we therefore only ordered two doses of pills, and trusted chiefly to the use of enemata. The ox-gall enema was decidedly beneficial.

Rupture of the membranes, and evacuation of the liquor amnii, a long time before the operation, is always to be deplored; but, although this accident had happened here, yet the great bulk of this fluid was still retained in the middle and upper portion of the uterus, which felt fluctuant and round in shape, and which admirably prevented the contraction of this organ, and so thereby lessened the chance of mischievous pressure on the maternal structures, and also contributed to the safety of the infant, and rendered its extraction more easy. The length of the uterine wound was also thereby diminished, in a degree proportional to the difference in the measurement of the uterine tissue, when distended by the contained fluid, and after its evacuation, when shortened by contraction.

In the present case, happily, the water was not evacuated until a short time before the operation, and then only very partially; the pains were also fortunately so slight, that no injurious pressure was made.

In a letter received from Mr. Cluley since the case was published, he says that he now believes "that the fluid was from the bladder."

If the reader refers to the statement, as mentioned to be made to me when I first visited the patient, he will find it is said that the membranes were unintentionally ruptured during a vaginal examination. Whether so or not, it makes no difference as to the truth of the above conclusion.

MEDICAL GAZETTE.

FRIDAY, JUNE 27, 1851.

We this week close the forty-seventh volume of the Medical Gazette. In following our usual plan, we may be permitted to take a glance at its contents, and at the same time to thank those who have, by their constant literary aid, enabled us to maintain the character of this journal as one devoted to practical medicine and the collateral sciences. Of the *Clinical Lectures on Medicine*, by Dr. Todd, a large number have been published in the present volume. They have been recently discontinued, but only temporarily, as we have the kind promise of Dr. Todd that they will be forwarded occasionally for publication in the ensuing volume. A course of lectures on *Clinical Surgery*, by Mr. Hilton, has also been published. Of the practical value of these it is needless for us to speak. As delineating accurate obervations of Hospital practice, and the results of various modes of treatment, they cannot fail to instruct the student, and interest the practitioner. It has been our privilege for many years to publish one or more of the courses of lectures annually delivered at the Royal Colleges of Physicians and Surgeons. Of the lectures for 1851, the *Gulstonian* and the *Lumleian* have already appeared; the former by Dr. E. L. Ormerod, comprising an elaborate description of the *Pathology and Treatment* of *Valvular Disease of the Heart*, and its *secondary affections*, — the latter by Dr. J. C. Badeley, embracing a subject most interesting in a physiological and psychological point of view, — namely, the *Reciprocal Agencies of Mind and Matter*. We have as yet published only three lectures of the annual course delivered by Professor Paget at the Royal College of Surgeons. They will be continued and completed in the new volume. To the student of physiology, pathology, and surgery, these lectures will be found of great value: but the name of the lecturer and the subject are sufficient at once to fix the attention of practitioners, and therefore to render it unnecessary for us to dwell on their merits.

In the department of *Original Communications* there are numerous papers on subjects of practical interest. We make no selection of these: we shall only observe that they are highly creditable to the authors, and eminently serve to sustain the character of our journal. In the past, as in the preceding volumes, we have devoted a large portion of our space to reports of the *Proceedings* of *British and Foreign Medical Societies*, and of *Hospital Cases*.

In the new volume we propose to continue the lectures of Dr. Todd and Mr. Paget. In addition to these we have to announce, for immediate publication, a short course of lectures on *Some of the Pathological Conditions of the Urine*, by Dr. G. Owen Rees. In this volume we shall also publish the lectures on *Materia Medica* lately delivered by Dr. Pereira at the Royal College of Physicians.

Among the original papers ready for publication we have to announce a series on the *Physical Diagnosis of Abdominal Diseases*, by Dr. Ballard,—on the *Morbid Conditions of the Pulmonary Artery*, by Dr. Norman Chevers,—on the *Successful Results of the Application of Tension for the Relief of Contractions from Burns*, by Mr. R. W. Tamplin, — *Cases in Midwifery*, by Dr. Radford, — and *Contributions to Medicine*, with the *Statistics of Climate and Disease*, by Dr. J. B. Thompson. The papers of Mr. C. Taylor, on *Infantile Remittent Fever*, — of Dr. T. Speer, on the *Pathology of Phthisis*,—

of Dr. OGSTON, on *Drowning*,—of Mr. B. W. RICHARDSON, on the *Various Modes of Death*,—of Mr. W. F. BARLOW, on *Softening of the Brain*,—of Dr. E. WELLS, on *Blood-letting*,—and of Mr. Craig, on the *Influence of the Variation of Electric Tension as a Cause of Disease*,—are ready for publication, and will appear in the early numbers of the new volume.

With thanks to our contributors for the aid which they have rendered to us, we shall close with the remark that we hope, with their assistance, to fill the new volume with matter as useful and interesting to the practitioner as that which will be found in the volume now brought to a completion.

Reviews.

Practical Remarks on some Exhausting Diseases. By Sir JAMES EYRE, M.D., Senior Physician to the St. George's and St. James's Dispensary. Second Edition. 12mo. pp. 110. London: Churchill. 1851.

IN the year 1845 we recommended the first edition of this essay " to the attentive perusal of the profession." It is with the greatest satisfaction that we now not only express our former favourable opinion, but urge upon our readers to make themselves acquainted with the contents of this clear and practical little essay, brief though it be. Its object is to bring again under notice the value of the oxide of silver in atonic hæmorrhages, in leucorrhœa, epilepsy, and chorea. The author's additional experience has satisfied him that in all diseases attended by chronic discharges of blood there is no such medicine in the whole catalogue of remedial means as the oxide of silver. Sir James Eyre also adduces testimony to its efficacy in dyspepsia and disorders of the alimentary canal. We can add our own testimony, in common with that of many members of the profession, on the very great value of this agent as an astringent and tonic. We take this opportunity of pointing out for imitation the practical manner in which the author relates his cases, shorn of all extraneous and irrelevant observations.

A Few Remarks upon the Use of Impure Gold for Dental Purposes. By WILLIAM IMRIE, Surgeon-Dentist. Pamphlet, 8vo. pp. 11. London: Churchill. 1851.

MR. IMRIE has here sought to remove the alarm which has been excited in the minds of many persons, that the gold employed by dentists in fixing false teeth, &c., produces a slow poisoning by the presence of the alloy of copper. Mr. Imrie has obtained the opinion of Dr. Alfred Taylor on the action of the saliva on the gold plates used by dentists, and has received a sufficiently explicit answer to enable him to affirm that the gold used by *respectable* dentists can produce no deleterious action upon the animal economy. A certain portion of copper is necessarily added, as without it the gold would not have sufficient strength or durability. The gold, however, is, or ought to be, in such large proportion as to prevent any injurious effects. Those who resort to the advertising quack dentists, who profess to supply gold plates at the price of copper, must expect to suffer for their credulity. We refer those who are interested in this question to Mr. Imrie's short and well-written paper. We fully concur in the author's advice that the best way to avoid danger from plates made of inferior gold is to consult only dentists of respectable character—men who have a reputation to lose, if not one to be gained.

Cases of Vesico-Vaginal Fistula, treated by operation. By GEORGE HAYWARD, M.D. Pamph. 8vo. pp. 21. Boston, U.S. 1851.

THIS pamphlet consists of a record of cases in which Dr. Hayward has, by the aid of ligatures, remedied the infirmity of which it treats, or has lessened the sufferings of individuals afflicted with it. The operation has been performed twenty times by the author on nine patients; one being operated upon six times, another five, two twice, and five once. In three cases the operation was entirely successful; in five the patients obtained great relief; in the remaining two no benefit was derived from it.

The cases here recorded furnish a very useful history of a difficult and tedious operation for a slight injury, which, however, constitutes a very heavy affliction to its unhappy subject, who is thereby rendered a burden to himself and loathsome to others. Any experience which will enable the surgeon to alleviate this misfortune should be gratefully accepted The information conveyed by Dr. Hayward's pamphlet will, we doubt not, be most readily and thankfully received by the profession.

A Practical Analysis of Seventy Cases of Inflammatory, Functional, and Structural Diseases of the Heart; with Observations on their Treatment and Prevention. By S. SCOTT ALISON, M.D. Pamphlet, 8vo. pp. 45. London: Churchill. 1851.

THIS is a useful contribution to practical medicine; illustrating the principal features in the history, progress, and treatment of heart disease. A tabular view of forty-two cases of structural disease of the heart is given, which points out the principal circumstances observed in connection therewith—*e. g.*, age, habits of life, family disease, antecedent disease, duration of disease, its form, physical signs, symptoms, treatment, and results. This essay is worthy of the perusal of those who are engaged in the study or treatment of disease of the heart.

On Secondary Hæmorrhage after Parturition. By ALFRED H. M'CLINTOCK, M.D., F.R.S.C.I., Ex-Assistant of the Dublin Lying-in Hospital; Vice-President of the Dublin Obstetrical Society, &c. Pamphlet, 8vo., pp. 44. Dublin: Hodges and Smith. 1851.*

BY the term "secondary hæmorrhage" Dr. M'Clintock understands "any profuse sanguineous discharge from the vagina commencing after a patient has been six hours delivered, and within a month after this epoch." The causes which the author enumerates are—1, the portion of the placenta in the uterus; 2, the retention of a coagulum of any size in the uterus beyond the first few hours after delivery; 3, relaxation of the uterine fibres; 4, vascular disturbance; 5, obstinate constipation, with great fæcal accumulation in the lower part of the large intestines; 6, functional disorder of the liver; 7, ulceration of the cervix; 8, polypus of the uterus; 9, inversion of the uterus. Besides these causes, which the author enumerates on his own experience, and on the authority of others, he relates several cases which cannot be referred to either. The views on the pathology of these cases, and of their treatment, given by Dr. M'Clintock, together with the consideration of their causes, form a very complete monograph, well deserving the notice of obstetricians.

On Diseases of the Mucous Membrane of the Throat, and their Treatment by Topical Medication. By WILLIAM R. WAGSTAFF, M.A. M.D., &c. 12mo. pp. 183. London: Churchill. 1851.

THE "topical medication" practised by the author is the application of a strong solution of nitrate of silver, as recommended by Dr. Horace Green, of the United States, and adopted by many practitioners in England. This essay comprises at the same time a very lengthy account of the pathology, symptoms, &c., of the diseases of the mucous membrane of the throat, and might, we think, have been curtailed with some advantage to the reader.

Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo. By JOHN LIZARS, late Professor of Surgery to the Royal College of Surgeons, and Senior Operating Surgeon to the Royal Infirmary of Edinburgh. Second edition. 8vo. pp. 180. Edinburgh: Lizars. London: Highley. 1851.

A FEW weeks only have elapsed since we reviewed the first edition of this work: we have now to announce the publication of a second edition, with an appendix containing other cases and correspondence relating to the vexed question of the perineal section in *impermeable* stricture. As we have so lately expressed our opinion of Mr. Lizars' work, we may here content ourselves with again commending those who wish to be acquaint the controversy, or to be warned dangers of too free a use of the ing knife.

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* Reprinted from the Dublin Quarterly Journal of Medical Science.

Pathology of the Human Eye. By JOHN DALRYMPLE, F.R.S., F.R.C.S., &c. Fascic. 7. London: Churchill. 1851.

THIS practical serial publication maintains the character which we have given to it in former notices. The present fasciculus treats of Cataract in its hard and soft state, and of the operation of depression or couching. It contains twenty-four beautifully coloured illustrations, representing the various stages of the disease.

Surgical Anatomy. By JOSEPH MACLISE, F.R.C.S., &c. Fascic. 8. London: Churchill. 1851.

IN this fasciculus Mr. Maclise delineates and describes the surgical dissection of the male bladder and urethra, and compares lateral with bilateral lithotomy. In addition to these, there are numerous illustrations representing congenital and pathological deformities of the prepuce and urethra, with the operations for stricture and diseases and deformities of the prostate. The illustrations are accurate, but in some instances rather coarse. The work is, however, a cheap and useful publication to students and junior practitioners.

Portraits of Diseases of the Skin. By ERASMUS WILSON, F.R.S. Fasciculus IX. London: Churchill 1851.

WE here have beautifully-executed illustrations of *Lichen annulatus solitarius*, *Roseola annulata*, *Lichen syphiliticus*, and *Psoriasis guttata*. This work cannot fail to be serviceable to those who seek for an accurate diagnosis of diseases of the skin.

The Cyclopædia of Anatomy and Physiology. By R. B. TODD, M.D., F.R.S., &c. Part XLI. London: Longmans. 1851.

WE take this opportunity of announcing the publication of another part of this excellent Cyclopædia. It contains one complete article on the *Urine* in its healthy and morbid condition, by Dr. G. O. Rees, which may be regarded as an accurate and careful summary of the present state of our knowledge of this secretion. The conclusion of the article on the *Urethra*, by Mr. Adams, embraces chiefly comparative anatomy—malformations and morbid states of the urethra in the human subject. More than one-half of this part is occupied with a most interesting article on the *Varieties of Mankind*, by Dr. W. B. Carpenter, accompanied by numerous illustrations. Although not completed, we have no hesitation in pronouncing it to be an admirable compendium of our anatomical and physiological knowledge of the races of men.

This part is a near approach to the completion of a work which will always hold a high rank in the medical literature of the present century.

On Articulate Sounds; and on the Causes and Cure of Impediments of Speech. By JOHN BISHOP, F.R.S., F.R.C.S., Member of the Council of the Royal College of Surgeons of England; Consulting Surgeon to the Northern Dispensary; late Senior Surgeon to the Islington Dispensary, &c., &c. 8vo. pp. 79. London: Highley. 1851.

MR. BISHOP has bestowed great pains upon the analysis of articulate sounds, upon the physiology of the voice, and upon the study of the acoustic principles upon which vocalization depends. The results of his investigations are given in the first part of his work, and constitute the data necessary for the study of the pathological condition of the organs of articulation in impediments of speech. These data, as set forth by the author, comprise the reduction of all languages to certain articulate sounds, with observations upon the suggestions that have been made for an universal language; an inquiry into the number of distinct articulate sounds in the English language; an analysis of the elementary sounds of the English language; an account of the artificial mechanisms that have been contrived for the production of vowel sounds, and their explanation on the principles of acoustics; the theories that have been advanced upon the mechanism of human voice and speech. This portion of the work presents a most interesting and lucid explanation, anatomical and physiological, of the modes in which the several vowels and consonants of our language are produced. It is

> "not a merely speculative inquiry for the amusement of the curious, but a subject of high practical importance; for unless the normal action of the vocal mechanism is thoroughly understood, it is impossible for the medical practitioner to undertake, with

any probability of success, the cure of those distressing cases of defective pronunciation and hesitation of speech which are so frequently committed to his care."

To this object and end are the remaining remarks of the author addressed, having, at the same time, this principal aim,—to show that the operations that have been performed by Dieffenbach and his disciples for the cure of stammering have originated in imperfect knowledge of the physiology of the vocal organs, which, so elaborate and perfect in their normal state, can scarcely, as Mr. Bishop with great justice observes, be expected to do their work after mutilation.

The cure of stammering is to be obtained, the author points out, by teaching the patient the proper use of the several parts of the vocal apparatus, and by enabling him to gain such a command over the muscles as shall regulate the vibratory condition of the cords.

The subjoined extract will, in a measure, represent Mr. Bishop's views:—

"On careful investigation, it will be found that the interruptions of vocalized breath in stammering may take place by the irregular actions of four different sets of organs,—1st. By the closing of the valve of the glottis; 2dly. By the closing of the isthmus of the fauces; 3dly. By the dorsum of the tongue being brought into contact with the palate; 4thly. By the closing of the lips and posterior nares. In the first case, the air is condensed in the trachea; in the second, the same effect takes place in the vocal tube, posteriorly to the isthmus of the fauces. When the glottis is irregularly closed during speech, the articulation of all the vocal sounds is prevented. A prolonged closing of the isthmus of the fauces necessarily obstructs the pronunciation of those letters and syllables which begin with gutturals,—as *king*, *good*, &c. The involuntary or misdirected action of the tongue affects the series of lingua-dentals, lingua-palatals, and lingua-palato-nasals, and, therefore, words and syllables beginning with those letters. That of the lips not only affects the labials, but may also impair the pronunciation of all the other letters. By listening to the manner in which the breath is suppressed, or suffered to escape, the ear of any experienced person may easily detect, without ocular inspection, whether it is the valve of the glottis, or of the isthmus of the fauces, which is instrumental in producing the interruption. The same observation will enable him to discriminate the effect produced when the sounding column of air is stopped by the tip of tongue. When the lips are the cause of the interruption, we have ocular demonstration to assist us in distinguishing the organs which are instrumental in causing the defect" (p. 53).

These irregular actions of the vocal mechanism are traced by the author to derangements of the nervous system. Of the nature of these, as well as of their causes and concomitant effects, Mr. Bishop treats most fully, illustrating his views by the relation of a few selected examples.

On the subject of treatment we must refer our readers to the treatise itself, since the principles and practice to be followed are involved in the discussion of the preceding topics, and could not well be separately discussed within our limits. We can with much confidence commend this treatise, not only to the medical attendant, but equally so to the unfortunate sufferers from this most irksome and painful defect.

An Inaugural Essay on Zoo-Adynamia, presented for the Degree of Doctor of Medicine in the University of Pennsylvania. By George J. Ziegler, M.D., published upon the recommendation of Prof. S. Jackson. Pamph. 8vo. pp. 64. Philadelphia: Lippincott and Co. 1850.

The object of this essay will be, in part, learnt, by borrowing the author's definitions of his terms:—

"Zoo-adynamia, *α ζωον*, anima, or life, and privation; and *δυναμις*, force or power.

"Zoo-adynamia may be divided into psychico-adynamia, and neuro-adynamia; the first from *ψνχη*, soul or mind, *α*, and *δυναμις*, thus meaning a deficiency or privation of mental power; the second, from *νευρον*, nerve, *α*, and *δυναμις*, deficiency or privation of nerve power.

"Pyschico-adynamia and neuro-adynamia may be local or general, partial or complete, temporary or permanent in their character. and may result from, 1st. Modification of structure; 2nd. Interference with function, without modification of structure; 3rd. Inanitia; and 4th. Sympathy. All of these may be very sudden or very gradual in their occurrence."

In the treatment of his subject, the author omits from the present essay, as being too extensive, the first portion, or psychico-adynamia, and confines himself to the consideration of neuro adynamia. This he divides into A. Sensory adynamia. B. Motor adynamia:—

A. Sensory Adynamia.
a. general; *b.* special.
B. Motor Adynamia.
a. voluntary; *b.* involuntary.

The modifications of structure, or of functions, of the nervous system, which cause those diseases designated by the author adynamia, are fully treated by Dr. Ziegler, in their relations of cause, symptoms, treatment, &c. In discussing the last topic, that of treatment, the author draws attention to the administration of Nitric Oxide Gas, which he regards as a remedial agent entitled to favourable consideration in the treatment of diseases characterized by a deranged state of the organism, which are usually recognised as *asthenic.*

This essay will be found to present a condensed view of this extensive class of diseases.

Proceedings of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

June 10, 1851.

MR. HODGSON, PRESIDENT, IN THE CHAIR.

Case of Popliteal Aneurism treated by Compression; with Remarks, and a List of the Cases treated in Dublin. By O'B. BELLINGHAM, M.D., F.R.C.S.E., Surgeon to St. Vincent's Hospital, Dublin.

THE subject of this case was a labourer, aged 42, who was admitted into St. Vincent's Hospital, under Mr. Bellingham's care, in November 1850. The aneurism, which was of large size, was seated on the right side, had a strong heaving impulse, and a short harsh bruit was heard on auscultation over it. The treatment was commenced by placing the patient upon a very restricted diet, especially as regards fluids (six ounces only being allowed in the day, with eight ounces of solid food), confining him strictly to the horizontal posture, with a dose of purgative medicine each night. Under this treatment, continued for some days, the pulse, from being hard and incompressible, became soft, small, and slow.

Compression was commenced Dec. 4th, at 11 o'clock A.M., by means of two instruments; one upon the artery where it crosses the ramus of the pubis, the other at the lower third of the thigh. At 8½ o'clock P.M. the outlines of the aneurismal sac were more distinct, the patient's skin was cool, and he did not complain of pain. He remained awake during the night, and kept up the compression himself, the points upon which the pad of the instrument should rest having been marked with ink. Next morning, between 9 and 10 o'clock, on unscrewing the instrument, the pulsation of the aneurism was found to have ceased; the tumour was hard, solid, and circumscribed, and an enlarged collateral vessel was felt over the centre of the popliteal region. Moderate pressure was continued for some days, the patient was kept in bed, and the diet was gradually improved. The tumour diminished in size; and when the patient returned home, the limb was as strong as the other, and his general health perfectly good.

Some remarks upon the treatment of aneurism by compression follow, in which the author contrasts the results of compression and the ligature, and points to the advantages likely to ensue from combining constitutional with local treatment.

In a table appended to the paper the author has given a list of all the cases of external aneurism treated by compression in Dublin during the last seven years, in which the seat of the disease is mentioned, the hospital or other locality where the treatment was conducted, the surgeon's name who had the management of the case, and the results, are stated. Of these, it appears that twenty-six were cases of popliteal aneurism, twenty-one of which were cured; six were cases of femoral aneurism, of which five were cured, the sixth having been a form of traumatic aneurism in which amputation of the limb was the only resource; three were cases of brachial aneurism, of which two were cured: in the other, a high bifurcation of the brachial artery existed, and two vessels required to be tied. One was a case of radial aneurism, which was cured by compression.

Of the remaining five cases of popliteal aneurism, amputation of the limb was performed in one, the patient recovering; in a second, the ligature was used with success; in a third, the patient was obliged to return to his employment before the cure of the disease: the aneurism diminished in size, and the patient continued to work for above three years afterwards, when symptoms of aortal aneurism supervened, under which he sank. In a fourth, the patient died of pulmonary disease; and the fifth patient, who was of a broken-down constitution, died of erysipelas.

Account of the Dissection of a Case in which two Popliteal Aneurisms had been treated by Compression of the Femoral Arteries. By PRESCOTT HEWETT, Assistant Surgeon to St. George's Hospital, &c.

A man, æt. thirty-eight, was admitted into St. George's Hospital in the middle of 1848, under Mr. Cutler, with an aneurismal tumour in each ham. That on the right side, completely filling this region, was compressible, but could not be emptied; that on the left, not larger than a small egg, was hard, and to a great degree apparently solid, and with much less pulsation. The tumour on the right side had only existed three months, and nothing had been done for it. From the account of the patient, it appeared that the disease on the left side, which had begun about eighteen months back, had been treated by compression of the femoral artery at the Wexford Infirmary, where the pressure had been kept up, more or less, for seventeen weeks; during which time the limb had regained its natural size, and the tumour was reduced to its present state, from which it has never since varied, and has caused him but little inconvenience. His general health, which had begun to give way about two years and a half back, had prevented him from following his business of musical instrument maker. When admitted into the hospital, he was pallid, and apparently suffering from great debility.

At a consultation of the surgeons, it was determined, under existing circumstances, that compression should first be applied to the right femoral artery; and the instrument, a ring tourniquet, was so adapted as only to lessen the circulation in the limb, and to be worn for a few hours daily. In some little time the limb was reduced in size, and the tumour became smaller and firmer, but pulsation still remained. Some six weeks after his admission, and whilst under surgical treatment, cough and expectoration, with difficulty of breathing, made their appearance. Auscultation detected nothing abnormal about the heart, but the lungs were found to be engorged at the back part. The chest symptoms went on increasing in severity, and the patient one day suddenly brought up a large quantity of arterial blood, and died shortly afterwards. The tumour in the right ham had gone on decreasing in size, and had become firmer and more solid, but some pulsation was still felt. No change had occurred in the left ham.

At the examination of the body, which took place 31 hours after death, the left aneurismal tumour, deeply imbedded in the popliteal space, was found lying between the joint and the artery. Of the size of an egg, it was pyriform in shape, and apparently quite solid; but, on cutting into it, the lower half only was filled with long-standing coagula; the upper part, still presenting a cavity lined throughout by a perfectly smooth membrane continuous with the coat of the artery, merely contained some small recent clots. Of the two openings into this sac, the upper one was large, and nearly of the size of the artery; the lower one, on the contrary, was much contracted, and scarcely admitted a common-sized probe. The portion of the artery lying upon the sac was also very much contracted, but its coats were healthy, as well as those of the posterior and anterior tibial vessels, which were of their normal size. In the upper part of the popliteal, and in several parts of the femoral, there were large patches of atheroma, with three distinct aneurismal dilatations—one in the former vessel, and two in the latter. The femoral artery and vein were pervious in their whole length, and the surrounding cellular tissue was not thickened. The vein and the nerve in the popliteal space were firmly adherent to the sac, with a few of the fibres of the gastrocnemius muscle.

The aneurism on the right side, larger than a cricket ball, was also lying between the artery and the knee, to which it was firmly adherent. It was filled with laminated coagula, save at the back part, where there was still a small channel leading from the upper into the lower part of the vessel. This channel was rough throughout, and covered with recent fibrine. The upper opening of this channel was free and smooth; the lower one was small, and below it, the artery was reduced to the size of the posterior tibial. Above the aneurism, the coats of the artery were much thickened by atheroma, and here, too, about 1½ inch above the tumour, was another small aneurismal dilatation. The femoral artery presented several patches of atheroma, but it was otherwise healthy, and, as well as the vein, pervious throughout its whole course: the surrounding tissue was not thickened. With regard to the popliteal vein and nerve the appearances were the same as those observed on the left side.

The thoracic aorta was extensively affected with atheroma throughout a great part of its course, and it was somewhat dilated. In its arch it presented three distinct aneurisms, one of which, the largest, was lying between the large vessels and the windpipe, into which it had burst by a small ulcerated opening about an inch above the bronchi: the cavity of this sac was partly lined with long standing coagula. The bronchi were filled with blood, in addition to which the lungs themselves presented several large patches of pulmonary apoplexy, and were extensively affected with emphysema.

All the abdominal organs were healthy, excepting the kidneys, which were somewhat smaller than natural, rough on their surface, and with several small cysts in their structure.

Mr. Macilwain said he had not heard the whole of the first paper, and that his object in addressing the meeting was to obtain some information on this important subject, in which he, Mr. Macilwain, considered very slow progress had been made in the mode of treatment, and in reference to the position in which Mr. Hunter had left this question. He (Mr. Macilwain) divided aneurisms into three conditions: 1st, the diseased artery; 2nd, the force of the circulation; and 3rd, the combinations of both those conditions, and considered the depositions found in the coats of arteries mainly interesting in connection with this subject, but believed that they held allegiance to the law of chronic depositions in general; but on this point Mr. Macilwain considered the question under discussion had been too much limited, for that a good deal of interesting information could be given, he thought, by those who had paid attention to the proximate cause of depositions in general: he concluded by asking, whether we should not have more accurate records by not confining ourselves to local influences, but referring more particularly to the habits of the patient and actual state of the entire system. He (Mr. Macilwain) should wish to hear the opinions of those who had made such investigation.

The President thought it would be better to limit the observations to the paper, viz. cure of aneurism by compression, and that those morbid changes spoken of by Mr. Macilwain would afford subject matter for an interesting discussion on some future evening.

Mr. Partridge considered it would be better if surgeons of experience at the meeting would state their opinions on this interesting subject. It seemed to him that in London there was a clumsy mode of applying instruments. In King's College Hospital a case had occurred in which a slough was produced by the use of a compressing instrument, and in which the patient, who was anxious to assist in every way the cure by this method, endeavoured to persevere in its use; however, the aneurism was not cured. Mr. Partridge said another case occurred in which he was most anxious to try compression, but feared if he did so, from the languid state of the patient's circulation, gangrene might occur; a ligature was applied, and gangrene did occur. He should be glad to hear the experience of others in such cases, and the result by examination of the artery after death. He appeared to think that, if compression failed, the artery was placed in a worse position than it otherwise would be to hope a favourable result from ligature.

Mr. Quain said he rose mainly on account of Mr. Partridge's observation that, in London, we were clumsy in operations; in answer to which he observed that he (Mr. Quain) had used compression without such an unfavourable result as occurred with Mr. Partridge. One part of Mr. Bellingham's paper he thought objectionable, in which he stated that the practice of treating aneurism by compression was described elsewhere, which certainly he (Mr. Quain) was not aware of. Mr. Liston had used it, he said, and the question did not refer to the mode of treating aneurisms in Dublin, London, or Edinburgh, but merely the treatment by compression. Another matter he wished to remark on was, that it was only used in cases of popliteal or femoral aneurism, and that this limits its application very much. He (Mr. Quain) once saw it used in aneurism of the hand, when it failed: from the intimate connection which the artery has with a large nerve, the patient could not endure the pain, and in this case the patient was afterwards cured by ligatures, and that the previous compression had caused some thickening of the cellular tissue, and consequently some difficulty in the application of the ligature. In conclusion, he said, no post-mortem appearances had been mentioned in Mr. Bellingham's paper, which had been carefully remarked in Mr. Hewett's case. He (Dr. Quain) had seen the vein obliterated, and should like to know if any member present could favour the meeting with the result of their experience of those appearances.

Mr. Partridge wished to ask Dr. Quain when the compression had been employed. What he had understood from Mr. Bellingham's paper was, that in Dublin compression was habitually employed.

Mr. Quain said he had seen it used in popliteal and femoral aneurism, and had seen it unsuccessful in another case.

Mr. Hewett observed that, in St. George's Hospital, there was scarcely a case of aneurism in which compression was not tried, and give the history of five cases. Two were cases of popliteal aneurism, in one of which the tumour was very large; in both, compression was first tried, but ligatures had afterwards to be applied. Notwithstanding Mr. Partridge's representation that the instruments used were clumsy, he thought compression had in those cases been fairly tried, nor, after compression had been used for some time, did it render the application of a ligature the least difficult. He next spoke of a case where compression had been used from a wound of the brachial artery, and said he could not agree with Mr. Quain that the proximity of the nerve would prevent success. In a case of Mr. Johnson's, compression was tried, and the patient after a short time was discharged. Two months subsequently he returned, and, being unwilling to submit to compression, ligatures were applied, and that in a case where compression had been used. He (Mr. Hewett) had made a most careful dissection without discovering any thickening in sheath or cellular tissue surrounding the vessels.

Mr. CURLING thought that the profession were greatly indebted to Dr. Bellingham, and wished that he had given more information as to the mode of applying the pressure. There was, he said, at the present time, a case of aneurism in the London Hospital, in which it was necessary to send to Dublin for the instrument to use compression with. He understood Mr. Quain to say, that, in one case, he had found the femoral vein obliterated, but he believed compression on the vein would be avoided by making compression above or below Poupart's ligament, but that the adjustment of the instrument requires very nice management, and the patient should be made to assist and understand the object of its application. He agreed with Mr. Quain's observations on the difficulties of compression of the brachial from proximity of the nerve.

Mr. EDW. COCK being asked by Mr. Partridge to give his experience of the benefits of compression, said it was very small; that he had tried it in two cases; in one instance, the patient, after four days' trial, refused to submit to it any longer, and he appeared to think the instrument employed was much more difficult to bear than that now adopted, but thought if they had submitted to compression for a sufficient space of time cure would have been effected. He had experienced some difficulty in applying the ligature after compression had been used, in one case from the thickening and absorbent inflammation over the sheath, but he (Mr. Cock) had no doubt that compression failed in his cases from bad management and clumsy adjustment of the instrument, and the patient not being watched with sufficient care, or left under the care of some one not perfectly conversant with its application, and the patient also should assist himself, but thought there was every reason to believe that the treatment of aneurism by compression would soon become general.

Mr. ATHOL JOHNSON said he remembered a case of Mr. Hawkins's, of popliteal aneurism, in which he thought want of success by compression was attributable to clumsiness of the instrument. He said in a case under the care of his brother, Mr. Henry James Johnson, and in the case of aneurism of the ulnar artery already referred to by Mr. Hewitt, that, by means of an instrument constructed by him of a very simple nature, a cure was effected in both cases.

The PRESIDENT believed the profession were largely indebted to their Irish brethren, especially for developing the principle on which compression ought to be undertaken. He said the Italian mode of compressing the limb and foot beyond where the tumour was situated rarely succeeded; and, secondly, that the plan of making severe compression at a distance from the tumour, as proposed by Mr. Frew, of Berlin, caused so much pain that the patient could scarcely ever bear it, and therefore it had not succeeded. It had, he said, been reserved for Dr. Bellingham to show that a more moderate degree of pressure in this way produces a cure. A great physiological principle will, he said, show how this acts: "by moderate pressure, long continued, the stream of blood is delayed, and the circulation through the sac being lessened, deposit of fibrine takes place." In looking to Mr. Hewett's case he considered it doubtful; if the case is perfect, the sac, he said, remains, and the cavity: if the patient becomes plethoric, secondary symptoms may be produced. He hoped Dr. Bellingham would excuse his asking if any secondary symptoms were induced in his case, and what was the condition of the vessels. He thought the elastic mode of compression was very ingenious. Mr. Tuffnell, he observed, has entered fully into this subject, and speaks of applying pressure at two points, and so, by alternating it, to relieve the patient. Another point he wished to observe was, that it had only been applied to the extremities, but that if a ligature on the distal side of a vessel is capable of curing disease, and we know that it is so, he (the President) did not see why it would not be applicable as in disease of iliac arteries.

Dr. BELLINGHAM said he had brought over from Dublin a cast of the limb, to show the size, &c.; also, he brought over two preparations from the College of Surgeons' Museum, Ireland, a description of which would be found in the Catalogue, marked Nos. 3 & 5. In one case, the patient laboured under popliteal aneurism, and by compression it was cured within 48 hours, but in twelve months afterwards he returned with aneurism of the opposite side which was again treated by compression, and cured. In eighteen months afterwards the patient returned with symptoms of aortic aneurism, and died suddenly from what was afterwards found to be aneurism of the descending portion of the arch. On examining the vessels which had been previously subjected to compression, the artery alone was obliterated, the vein on each side being perfectly pervious. Dr. Bellingham next mentioned a case where the patient had died from erysipelas after compression and galvano puncture were used. The last mentioned remedy he was induced to try from its being favourably spoken of in the French journals. It appeared to him very difficult sometimes to avoid compressing the veins, and with respect to the points where he had been accustomed to employ the pressure, it was where the vessel crosses the bone above, and where it passes through Hunter's canal below. He did not, he said, mean from his paper to infer that London surgeons refused to treat by compression; he said that cases of brachial and radial aneurism had been treated and cured by these means, but their not being fatal diseases, or so dangerous as popliteal or femoral, of course the latter merited more of our consideration.

SOIREE AT THE ROYAL COLLEGE OF PHYSICIANS.

THE President and Fellows of the Royal College of Physicians have named Saturday, the 28th inst., for a *soirée* to be held at the College, Pall-mall-East, for the reception of distinguished and scientific foreigners and other visitors.

APOTHECARIES' HALL.

NAMES of gentlemen who passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, 19th June, 1851:—James Andrews, Pershone, Worcestershire—John Horton Broxholm, Sunbury, Middlesex—John Dale, Jun., Yarm, Yorkshire—John Norton, Cowfold, Sussex—George Edward Webster, Cambridge—Essex Bowen, Llwyn Gwair, Pembrokeshire.

THE KENT OPHTHALMIC HOSPITAL.

WE have received a copy of an address published by a committee of working-men in behalf of the funds of the Kent Ophthalmic Hospital, which manifests, on the part of the recipients, a due appreciation of the benefits conferred by that institution. The working classes of Maidstone, and of the county of Kent, have therein set a praiseworthy example to their fellows throughout the kingdom by gratefully acknowledging and earnestly endeavouring to second the efforts of the directors of a charity which is devoted solely to their interests. The address shows the working-men of Kent to be possessed of intelligence and good feeling.

BIRTHS & DEATHS IN THE METROPOLIS

During the Week ending Saturday, June 21.

BIRTHS.		DEATHS.	
Males....	728	Males....	492
Females..	754	Females..	476
	1482		968

CAUSES OF DEATH.

ALL CAUSES	968
SPECIFIED CAUSES	953
1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases*	205
Sporadic Diseases, viz.—	
1. Dropsy, Cancer, &c.	35
2. Brain, Spinal Marrow, Nerves, and Senses	109
4. Heart and Bloodvessels	58
5. Lungs and organs of Respiration	112
6. Stomach, Liver, &c.	59
7. Diseases of the Kidneys, &c.	12
8. Childbirth, Diseases of Uterus, &c.	9
9. Rheumatism, Diseases of Bones, Joints, &c.	8
10. Skin	3
11. Premature Birth	0
12. Old Age	57
13. Sudden Deaths	8
14. Violence, Privation, Cold, &c.	52

The following is a selection of the numbers of Deaths from the most important special causes:

Small-pox	22	Convulsions	46
Measles	39	Bronchitis	39
Scarlatina	19	Pneumonia	55
Hooping-cough	48	Phthisis	124
Diarrhœa	16	Lungs	9
Cholera	1	Teething	16
Typhus	35	Stomach	4
Dropsy	9	Liver	11
Hydrocephalus	39	Childbirth	5
Apoplexy	19	Uterus	3
Paralysis	14		

REMARKS.—The total number of deaths was 110 *above* the average mortality of the 25th week of *ten* previous years.

METEOROLOGICAL SUMMARY.

Mean Height of the Barometer		29·9
" " " Thermometer[a]		60·2
Self-registering do.[b]	Max. 97·	Min. 34·8

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·48.—Sum of the daily observations taken at 9 o'clock.

METEOROLOGICAL.—The mean temperature of the week was 1°·5 *above* the mean of the month.

NOTICES TO CORRESPONDENTS.

"A Subscriber."—We are unable to find room for the letter this week.

We are obliged to Dr. Radford for his letter. An accident prevented the insertion of his paper last week.

Mr. J. L. Milton's letter shall be published in the following number.

In consequence of the space occupied by the Index, our Hospital Reports and numerous contributions are postponed.—The Book List, too, likewise deferred.

CORRIGENDA.—In Mr. Gallwey's paper, last No. page 1073, col. 1, line 18, for "Bronchitis never," read "Is Bronchitis *ever*," with note of interrogation at the end of the sentence; *i. e.* after "Inflammation?"

Page 1074, col. 1, line 26, for *full point* after the Greek word, read with a *comma*, and the next word to begin with a small letter—"alluding."

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